

APPLICATIONS FOR ADMISSION AND FOR TRANSFER

The Constitution provides that the Board of Direction shall elect or reject all applicants for *Admission* or for *Transfer*, and, in order to determine justly the eligibility of each candidate, the Board must depend largely upon the Membership for information.

This list is issued to members in every grade for the purpose of securing all such available information, and every member is urged to scan carefully each monthly list of candidates and to furnish the Board with data in regard to any applicant which may aid in determining his eligibility. It is the *Duty* of all *Members* to the *Profession* to assist the Board in this manner.

It is especially urged, in communications concerning applicants, that errors in the record be pointed out and a *Definite Recommendation as to the Proper Grading in Each Case* be given, inasmuch as the grading must be based upon the opinions of those who know the applicant personally, as well as upon the nature and extent of his professional experience. If facts exist derogatory to the personal character or to the professional reputation of an applicant, they should be promptly communicated to the Board. *Communications Relating to Applicants are considered by the Board as Strictly Confidential.*

The Board of Direction will not consider the applications herein contained from residents of North America until the expiration of thirty (30) days, and from Non-Residents of North America until the expiration of ninety (90) days from March 1, 1925.

MINIMUM REQUIREMENTS FOR ADMISSION

Grade	General Requirement	Age	Length of Active Practice	Responsible charge of work
Member	Qualified to design as well as to direct work	30 years	10 years*	5 years
Associate Member	Qualified to direct work	25 years	6 years*	1 year
Junior	Qualified for sub-professional work	18 years†	2 years*	
Affiliate	Qualified by scientific acquirements or practical experience to co-operate with engineers			
Fellow	Contributor to the permanent funds of the Society			

* Graduation from a school of engineering of recognized reputation is equivalent to 2 years' active practice.

† Membership ceases at age of 32 unless transferred to higher grade.

APPLICATIONS FOR ADMISSION AND FOR TRANSFER

The Constitution provides that the Board of Directors shall elect or reject all applicants for admission in order to determine justly.

LIST OF APPLICANTS.

Names and Addresses of Applicants for Admission and for Transfer on this Preliminary List, Arranged Alphabetically.

Name.	Address.	Page.	Name.	Address.	Page.
AASS, ABEJOHN H.	Boston, Mass.	57	KERN, WERNER R.	Mt. Vernon, N. Y.	68
ALVAREZ, JOSE M.	Santiago, Dom. Repub.	57	LEE, JOHN C. H.	Washington, D. C.	68
ANDERSON, PAUL.	Philadelphia, Pa.	57	LE GRAND, JAMES	Pittsburgh, Pa.	69
ANDREWS, SEARLE E.	Richmond, Va.	57	LILLARD, R. S.	Nashville, Tenn.	69
BAILLY, JULIAN G.	Upper Darby, Pa.	58	LUNDAHL, RAYMOND R.	Milwaukee, Wis.	80
BECKWITH, HOMER E.	Cincinnati, O.	58	LYNCH, JOHN F.	New Haven, Conn.	80
BLANCHARD, ROLLO K.	New York City	78	MAHON, ALBERT A.	Philadelphia, Pa.	70
BOMAR, JOHN E.	Columbus, Ga.	82	MALKWITZ, HERBERT P.	Elizabethtown, Pa.	70
BOYD, IRWIN J.	Middletown, Pa.	58	MARBLE, CECIL B.	Webster Groves, Mo.	70
BRYEN, KARL A.	Shanghai, China	59	MARSH, JESSE O.	Los Angeles, Cal.	70
BURCHARD, EDWIN D.	Asheville, N. C.	59	MATTHEWS, HARRY G.	West Hoboken, N. J.	71
BURKE, CHARLES H.	New York City	59	PAYNE, HAROLD B.	Mamaroneck, N. Y.	71
CADE, CLAUDE M.	E. Lansing, Mich.	60	PAYNE, JOHN B., Jr.	Dallas, Tex.	71
CADY, REED W.	Fonda, N. Y.	60	PERRY, ARTHUR F., Jr.	Jacksonville, Fla.	83
CHASE, EDWARD S.	Boston, Mass.	78	PELANZ, ERNST L.	Wauwatosa, Wis.	81
CHRISTIANSON, HILMAR B.	Marion, Iowa	60	POTTS, C. HARRIS	San Francisco, Cal.	71
CLOUD, ARTHUR F.	Canton, Ohio	61	PRIDGEN, JOHN B.	Charlotte, N. C.	71
CONRAD, CUTHBERT P.	Madison, Wis.	79	ROBERTSON, GUY A.	Omaha, Nebr.	72
CONSOER, ARTHUR W.	Park Ridge, Ill.	79	RODIO, GIOVANNI	Milano, Italy	72
CORRY, PATRICK M.	New York City	61	ROHDENBURG, WALTER C.	Haworth, N. J.	72
CRESS, ELDRED E.	Champaign, Ill.	61	ROBERT, JOHN L.	Philadelphia, Pa.	72
CRUZ, MAMERTO	Ann Arbor, Mich.	61	RUDOLPH, PAUL J.	Austin, Tex.	73
DARROW, WARREN E.	Washington, D. C.	82	SCHAEFFER, JOHN F.	Cleveland, Ohio	73
DECKER, ASBURY C.	Birmingham, Ala.	62	SCHAMBERGER, SANFORD O.	Schenectady, N. Y.	73
DESSERUD, ANTON	Brooklyn, N. Y.	62	SCHONBERG, JACKSON R.	Westfield, N. J.	83
DE YOUNG, WARREN E.	Ann Arbor, Mich.	63	SCOTT, WARREN J.	Hartford, Conn.	73
DOERING, ALOYSIUS H.	Martins Ferry, Ohio	83	SHERRARD, HOWARD M.	Brisbane, Australia	83
DUFFY, JAMES M.	Mamaroneck, N. Y.	63	SMITH, HARVEY A.	Berkeley, Cal.	74
ENNIS, WILLIAM J.	Hartford, Conn.	63	SOPP, CLAUDE W.	Pasadena, Cal.	84
FELT, HALL M.	Long Beach, Cal.	64	SPOONER, RAY N.	New York City	74
FRYE, MARCUS, JR.	Vineland, N. J.	64	STEGNER, JOSEPH C.	Newport, Wash.	75
FUCHS, GEORGE A.	Brooklyn, N. Y.	64	THORNBURGH, CHARLES G.	Carnegie, Pa.	75
GEORGE, GARDNER C.	Watertown, N. Y.	64	TIMANUS, CLARENCE S.	Kansas City, Mo.	75
GERSCH, EMANUEL	Brooklyn, N. Y.	82	TINEY, BROWN C.	Lansing, Mich.	76
GOELLER, CHARLES	Newark, N. J.	64	TOWNSEND, DARWIN W.	Milwaukee, Wis.	81
GIONGO, GUIDO L.	Bloomfield, N. J.	65	TRAMP, GEORGE D.	Lansing, Mich.	76
GRAF, EMIL M.	Brooklyn, N. Y.	65	VANDERHORST, PAUL M.	Elizabeth, N. J.	76
GRAHAM, WALLACE E.	Mansfield, Ohio	65	VAN TREES, JOHN E., Jr.	Memphis, Tenn.	84
GRIMES, MAURICE W.	Audubon, N. J.	65	VAUGHT, WALTER A.	Corning, Ark.	76
HAMMELEN, PETER C.	Parkersburg, W. Va.	66	VEERA SWAMI, P.	Cocanada, India	77
HAYDOCK, CHARLES	Philadelphia, Pa.	79	VINCENT, HARVEY L.	Mullens, W. Va.	77
HENDRICK, THOMAS K. A.	New Haven, Conn.	66	WALSH, MICHAEL T.	Havana, Cuba	77
HENSON, FREDERICK J.	Huron, S. Dak.	66	WELLS, JAMES P.	Rochester, N. Y.	81
HOGOBOOM, WILLIAM C.	Los Angeles, Cal.	67	WERNER, PER W.	Brookline, Mass.	77
HOLMGREN, RICHARD S.	Manchester, N. H.	67	WICK, WILLIAM S. J.	New York City	77
JOB, JAMES R.	New York City	67	WOOTEN, ALFRED G.	Halifax, N. S.	78
JOHNS, CHARLES W.	Richmond, Va.	68	YOUNG, RICHARD W.	Worcester, Mass.	78
JONES, WILLIAM G.	Raleigh, N. C.	68			

Graduation from a school of engineering is recognized reputation in engineering in order to determine justly.

Membership ceases at age of 25 unless transferred to higher grade.

The fact that applicants give the names of certain members as references does not necessarily mean that such members endorse.

The numbers at the left of each name indicate the serial number of the applicant for the current year, and the district in which he resides.

The abbreviations in *italics* represent, respectively, *TT*, Total Time; *SP*, Sub-Professional Work; *P*, Professional Work; *RC*, Responsible Charge; *D*, Design. The figures showing the amount of time spent in Responsible Charge and on Design are the estimate of the Applicant. The allowance of two years for graduation and of one-third of a year for each academic year successfully completed in an engineering college without graduation are included in Total Time and Sub-Professional Work.

FOR ADMISSION

161 (2) AASS, ASBJORN HJALMAR, 853 Beacon St., Boston, Mass. (Age 28. Born Kristiania, Norway.) 1919 Dipl. Ing., Norges Tekniske Høiskole, Trondhjem. 1922 M. S., Die Technische Hochschule, Dresden, Saxony. July 1919 to July 1921 Asst. Engr. with Norwegian Govt., on hydraulic and concrete design, surveying and supervision. July to Sept. 1920 during military duties designing and supervising construction of trestles (60 ft. high) for military bridge, Hvalsmoen, Norway. *TT* 4.2: *SP* 2.3: *P* 1.9: *RC* 0.9: *D* 1. Oct. 1921 to March 1922 post-graduate student in Reinforced Concrete, Inst. of Technology, Dresden, Saxony. *TT* 0.4: *P* 0.4: *D* 0.4. Aug. to Dec. 1922 Asst. Engr. with Rietschell & Henneberg, Dresden, industrial heating and ventilating, design and installation. *TT* 0.4: *SP* 0.4. Feb. to April 1923 Asst. Engr. with Norwegian Govt., supervising subsoil drillings and foundation works. *TT* 0.2: *P* 0.2: *RC* 0.2. May to Aug. 1923 Draftsman with Purdy & Henderson, New York City. *TT* 0.2: *SP* 0.2. Aug. 1923 to Feb. 1924 Draftsman with Fraser Cos., Edmundston, N. B., Canada, sulphite and hydraulic mills, in charge of drafting, design and supervising construction. *TT* 0.6: *P* 0.6: *RC* 0.3: *D* 0.3. March 1924 to date Designer and Checker, concrete, with Stone & Webster, Boston. *TT* 0.8: *P* 0.8: *D* 0.8. *TT* 6.8: *SP* 2.9: *P* 3.9: *RC* 1.4: *D* 2.5. Refers to R. W. Burpee, A. G. Cherry, E. A. Dockstader, J. H. Eaton, T. B. Parker, H. V. Spurr.

162 (1) ALVAREZ, JOSE MAURICIO, Santiago, Dominican Republic. (Age 28. Born Santiago, Dominican Republic.) 1922 Ing. de Caminos y Puentes, Universidad Central de la Rep. Dom., also Public Surveyor, same Univ. Oct. 1917 to Jan 1918 Transitman, road location, Santiago-Moca Highway. Jan. 1918 to Oct. 1922 Public Surveyor. *TT* 5.1: *SP* 5.1. Oct. 1922 to Dec. 1923 Cadastral Survey Dist. Chf., in charge of survey of land for possible irrigation and clearance of titles. *TT* 1.2: *SP* 1.2. Jan. to Nov. 1924 Public Surveyor, also on irrigation work and building construction in Santiago City. *TT* 0.8: *SP* 0.8. Nov. 1924 to Jan. 1925 Asst. Engr., road construction, Santiago Pte. Plata Road, Public Works Dept., Dominican Republic; Prin. Asst. on road work of 13 K Sec. Jan. 1925 to date Res. Engr., Santiago Dist., Irrigation Service, Dominican Republic. *TT* 0.2: *P* 0.2. *TT* 7.2: *SP* 7.1: *P* 0.2. Refers to J. M. Adams, J. H. Caton, 3d, J. T. Collins, W. H. Ford, L. E. Loxley, L. H. Walker.

163 (4) ANDERSON, PAUL, 216 Rochelle Ave., Wissahickon, Philadelphia, Pa. (Age 24. Born Copenhagen, Denmark.) 1923 C. E., Royal Tech. Coll. of Copenhagen, Denmark. Feb. 1923 to April 1924 Draftsman, F. L. Smidth & Co., New York City, designing, drawing and tracing structural steel and reinforced concrete structures. *TT* 3.2: *SP* 2: *P* 1.2. April 1924 to date Draftsman, American Bridge Co., Pencoyd, Pa., detailing structural steel structures. *TT* 0.9: *P* 0.9. *TT* 4.1: *SP* 2: *P* 2.1. Refers to L. D. Draper, A. O. Forster, A. C. Gregory, O. E. Mogensen, E. Pollitt.

164 (5) ANDREWS, SEARLE EARNHART, 1212 Virginia Ry. & Power Bldg., Richmond, Va. (Age 31. Born St. Paul, Minn.) 1917 B. S. in Civ. Eng., Purdue Univ. June 1917 to date (except Jan. 1918 to Jan. 1919 in Air Service, U. S. Army at Waco, Tex.) with Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., as follows: June 1917 to Jan. 1919 and Jan. to

June 1919 Draftsman designing, laying out and checking drawings of tanks, standpipes, hoppers, smoke stacks, radio towers, buildings, penstocks, etc.; since June 1919 Contr. Engr., 2 months at Pittsburgh, designing, estimating and bidding on such structures; then 3½ years in charge of Washington, D. C., office, designing, estimating, contracting and at times supervising construction work in field; since Feb. 1923 on similar work at Richmond, Va.; also designed, contracted for and installed water-works systems, water-treating plants, filter plants and incinerators. *TT 8.7: SP 3: P 5.7: RC 5.5.* Refers to G. B. Bright, I. D. Goodwin, J. R. Green, W. H. Jackson, C. L. Todd, C. M. Wood.

165 (4) BAILEY, JULIAN GEORGE, 208 Fairview Ave., Highland Park, Upper Darby, Pa. (Age 46. Born Chicora, Pa.) June to Oct. 1899 Rodman, Pittsburgh and Lake Erie R. R. Co. *TT 0.3: SP 0.3.* Oct. 1899 to July 1900 Chainman, Pennsylvania Lines West of Pittsburgh. *TT 0.7: SP 0.7.* July 1900 to Aug. 1907 Transitman (Chf. of Party) and Chf. Masonry Inspector, on some construction, Pennsylvania R. R. (elevation of Monongahela Div.); then (1905 to 1907) Asst. Engr. on preliminary survey, location, etc., for low-grade freight line from Glen Loch to Philadelphia, and other surveys, etc. *TT 7.1: SP 5.1: P 2: RC 3: D 1.* Aug. 1907 to Sept. 1909 in private practice as Civ. Engr. and Surveyor, Coatesville, Pa., supervised construction of new plant for Coatesville Foundry and Machine Co., surveyed and designed plant for Green Lane Trap Rock and Ice Co., including dam, ice houses and quarry plant, and other engineering work. *TT 2.1: P 2.1: RC 2.1: D 1.* Sept. 1909 to July 1911 Field Engr., Inter-State Eng. & Supply Co., Philadelphia, in charge of construction of electric power plant for Metropolitan Elec. Co., Reading. *TT 1.8: P 1.8: RC 1.8.* March 1912 to Oct. 1917 Asst. Engr. and Dist. Engr., Bureau of Highways, Philadelphia, in charge of construction of boulevards and highways. *TT 5.6: P 5.6: RC 5.6: D 2.* Oct. 1917 to March 1920 Field Engr., Day and Zimmermann, Inc., Philadelphia, in charge of supervision of construction of steel plant at Erie, Pa., for Erie Forge and Steel Co., preliminary surveying of property and laying out town site for U. S. Shipping Board, south of Gloucester, N. J., and construction of Philadelphia Quartermaster's terminal for U. S. Army (two large 3-story reinforced concrete warehouse piers on wooden piles, hydraulic dredging of Delaware River and pier slips and railroad connections). *TT 2.4: P 2.4: RC 2.4: D 0.5.* March 1920 to Jan. 1921 Civ. Engr., Du Pont Eng. Co., Wilmington, Del., Cons. Engr. on reorganization work, studying construction operations and costs and advising changes in methods and forces to bring costs back to normal, on various projects such as new plants for Cadillac Automobile Co., Detroit, Mich., Buick Automobile Co., Flint, and General Motors Truck Co. and Oakland Automobile Co., Pontiac, Brown Life Chapin Co., Syracuse, N. Y., etc. *TT 0.7: P 0.7: RC 0.7.* April 1923 to Oct. 1924 Field Engr., Day & Zimmermann, Inc., Philadelphia, making investigations and preliminary reports on development of proposed hydro-electric projects, work consisting largely of topographic surveys in United States and Canada. *TT 1.5: P 1.5: RC 1.5: D 1.* *TT 22.3: SP 6.2: P 16.1: RC 17.2: D 5.5.* Refers to W. C. Bailey, G. T. Bergen, W. H. Connell, F. C. Dunlap, C. Penrose, G. F. Rowell, E. B. Temple.

166 (9) BECKWITH, HOMER EUGENE, 1533 Burdette Court, Cincinnati, Ohio. (Age 30. Born Fenton, Mich.) 1917 C. E., Syracuse Univ. June to Sept. 1917 Eng. Asst., Pennsylvania R. R. *TT 2.3: SP 2.3.* Sept. 1917 to June 1918 Inspector and Instrumentman, Newport News Shipbuilding & Drydock Co. *TT 0.7: SP 0.7.* Jan. 1919 to Jan. 1921 Field Engr., Atlantic, Gulf & Pacific Co., New York City, in charge of field engineering for two large dredges, such as making monthly estimates, engineering investigation of prospective contracts, co-operating with owner's engineer on laying out work. *TT 2: P 2.* March 1921 to Jan. 1922 and Oct. 1922 to date with The Pitometer Co., New York City, as Asst. Engr. about 4 months and Engr. in Chg. remainder of time. *TT 3.2: P 3.2: RC 2.8.* *TT 8.2: SP 3: P 5.2: RC 2.8.* Refers to D. D. Barlow, E. D. Case, E. S. Cole, L. T. Gaylord, J. A. Hiller, L. Mitchell, E. K. Wilson

167 (4) BOYD, IRWIN JOHN, 14 North Union St., Middletown, Pa. (Age 42. Born Wellsburg, W. Va.) Sept. 1901 to May 1903 student, Washington and Jefferson Coll., Washington, Pa. June 1903 to Sept. 1905 Rodman and Chainman for County Engr., Brooke County, W. Va., surveying. *TT 3: SP 3.* Sept. to Dec. 1905 Rodman, Pennsylvania Lines West of Pittsburgh. *TT 0.3: SP 0.3.* July 1906 to Jan. 1913 Inspector on construction of U. S. Govt. Locks and Dams on Ohio River, Wheeling (W. Va.) Dist., office work during winter and field work during summer. *TT 6.5: SP 6.5.* March to July 1913 Chainman, Concrete Inspector, N. W. P. R. R., San Francisco, Cal. *TT 0.4: SP 0.4.* Sept. 1913 to March 1914 Inspector on construction of U. S. Govt. dams on Ohio River at Wheeling. *TT 0.6: SP 0.6.* March 1914 to Oct. 1917 Transitman and Inspector on construction of new school buildings for Board of Public Education at Pittsburgh, Pa. *TT 3.5: SP 2: P 1.5: RC 1.5.* Oct. 1917

to date Constr. Engr., Middletown (Pa.) Car Co.; also Borough Engr. for Borough of Middletown, and Borough of Royaltown, Pa. *TT 7.3: P 7.3: RC 7.3: D 7.3. TT 21.6: SP 12.8: P 8.8: RC 8.8: D 7.3.* Refers to F. W. Altstaetter, G. B. Bebout, S. R. Bellows, W. N. Dambach, F. D. Holbrook, C. L. Wooldridge.

168 (1) BRYHN, KARL AUGUST, Care, Whangpoo Conservancy Board, Shanghai, China. (Age 32. Born Stockholm, Sweden.) 1916 Licensed as Official Concrete Designing Engr., Stockholm, Sweden. 1916 Diplom Engr. in Civ. Eng., Royal Tech. Univ. of Stockholm. July 1908 Rodman with F. Berger, Asst. to Prof. at Royal Technical Univ. June-Aug. 1909 Rodman and Instrumentman with Unander & Jonson, Cons. Engrs., Stockholm. *TT 0.3: SP 0.3.* June-Aug. 1910 concrete worker on concrete bridge at Gavle, Sweden, and June 1911 to Feb. 1912 Instrumentman, Draftsman and Inspector, with A. B. Betonkompaniet, Gen. Bldg. Contrs., Stockholm. *TT 0.9: SP 0.9* Feb. to Sept. 1912 with Royal Swedish Engrs., bridge building, etc. *TT 0.6: SP 0.6.* June to Sept. 1913 with Philip Pettersson, Bldg. Contr., in responsible charge of construction, a factory and a reinforced concrete silo, Stockholm. *TT 0.3: P 0.3: RC 0.3.* May to Aug. 1914 in responsible charge of foundation and reinforced concrete work, with Emil Johansson, Bldg. Contr., Stockholm. *TT 0.3: P 0.3: RC 0.3.* Aug. to Nov. 1914 with Royal Swedish Engrs. in charge of reinforced concrete work in connection with Fortress Oscar Fredriks Borg. *TT 0.3: P 0.3.* May to Aug. 1915 designing and in responsible charge of erection of reinforced concrete building, Stockholm (private work). *TT 0.3: P 0.3: RC 0.2: D 0.1.* Aug. 1915 to Feb. 1916 investigating and planning water power schemes in Sweden, also Concrete Designing Engr. with A. B. Vattenbyggnadsbyran, Cons. Hydr. Engrs., Stockholm. *TT 0.5: P 0.5: D 0.3.* May 1916 to Oct. 1917 Civ. Engr. with A. B. Vattenbyggnadsbyran, investigating, planning, designing water-power plants in Sweden, Norway and Finland; 7 months in responsible charge of investigation and planning of power plants in Sweden and Kumo River, Finland. *TT 1.6: P 1.6: RC 0.6: D 0.5.* Oct. 1917 to date Eng. Asst., Whangpoo Conservancy Board, Shanghai, China (Board for River Improvement and Harbor Works), until May 1919 in responsible charge of Constr. Dept. and part of time also of Dredging Dept.; then in Japan, United States, Sweden, Finland, Denmark, England, France and Italy, studying harbor developments and hydro-electric plants; Jan. 1920 to Jan. 1922 Asst. Designing Engr., and Jan. 1922 to Feb. 1923 Designing Engr. in responsible charge of planning and designing contract drawing and specifications for first unit of Shanghai Harbor Development, for Shanghai Harbor Investigation; since Feb. 1923 in responsible charge of Constr. Dept. *TT 7.2: P 7.2: RC 4.6: D 1.9. TT 14.3: SP 1.8: P 12.5: RC 6: D 2.8.* Refers to W. M. Black, G. W. Goethals, J. Meigs, F. Palmer, C. J. Rhodin, E. C. Stocker, A. V. H. von Heidenstam, P. Wahlman.

169 (10) BURCHARD, EDWIN DAY, 4 Fairfax Ave., Asheville, N. C. (Age 38. Born Hyattsville, Md.) 1913 B. S. in C. E., George Washington Univ. June to Sept. 1903 Office Boy, Feb. to June 1905 Office Asst., and July 1905 to June 1908 Rodman, Draftsman and Asst. Engr. on construction, with Jas. L. Parsons, Contr., Washington, D. C. *TT 5.9: SP 5.9.* July to Nov. 1904 Timekeeper, Cranford Paving Co., Washington, D. C. *TT 0.6: SP 0.6.* July 1908 to Sept. 1909 Bldg. Inspector, Water Dept. and Bldg. Inspector's Office, Municipal Govt., District of Columbia. *TT 1.2: SP 1.2.* Oct. 1909 to April 1910 Foreman and Draftsman with Chas. W. McKenney, Cons. Engr., Washington, D. C. *TT 0.5: SP 0.5.* May 1910 to Aug. 1911 Foreman with Jas. L. Parsons, remodeling U. S. Treasury. *TT 1.2: SP 1.2.* Sept. 1911 to March 1912 Bldg. Inspector, Municipal Archt.'s Office, Washington, D. C. *TT 0.5: SP 0.5.* April 1912 to June 1913 student, Eng. course, George Washington Univ. July 1913 to March 1914 Inspector, filtration plant construction, Front Royal, Va. *TT 0.7: SP 0.7.* June 1914 to date with U. S. Geological Survey as follows: June 1914-Feb. 1915 Jun. Engr., Water Resources, Washington, D. C.; March 1915-Feb. 1919 Field Engr., N. Y. Dist. Office, Albany, N. Y.; March 1919-Feb. 1922 Engr. in Chg. and Dist. Engr., Iowa Dist. Office, Ames, Iowa; March 1922-June 1924 Dist. Engr., Hawaii Dist. Office, Honolulu, Hawaii; July 1924 to Jan. 1925 Dist. Engr., N. C. Dist. Office, Asheville, N. C. *TT 10.6: P 10.6: RC 5.9. TT 21.2: SP 10.6: P 10.6: RC 5.9.* Refers to R. W. Clyde, C. C. Covert, N. C. Grover, W. E. Hall, J. C. Hoyt, A. Marston, F. Ohrt, T. Saville.

170 (1) BURKE, CHARLES HEISEY, 103 Park Ave., New York City. (Age 39. Born New York City.) 1908 S. B. in C. E., Univ. of Vermont. Prior to college course and during vacations (about five years) Instrumentman, Timekeeper, Clerk, etc., on highway and water-works construction. 1908 to 1911 with Geo. A. Fuller Co., New York City, as Timekeeper and Material Clerk on work in New York and Asst. Supt. on work in Philadelphia. *TT 5: SP 4.5: P 0.5: RC 0.5.* 1911 to 1913 with R. H. Howes Constr. Co., New York City, as Asst. Supt. and Supt. on work in Lowell, Mass., and Manchester, N. H. (total approx. \$1 000 000). *TT 2: SP 1: P 1: RC 1.* 1913 to 1915 Constr. Engr. and Supt., Western

Elec. Co., Hawthorn Plant, supervised erection coal-handling plant and section of manufacturing plant. *TT 2: P 2: RC 2.* 1915 to 1917 Supt. of Constr., Collins Bros., Gen. Contrs., Kansas City, Mo., on K. C. Ford Motor Co. Plant. *TT 2: P 2: RC 2.* 1917 to 1921 Supt. of Constr. and Cons. Engr., Swenson Constr. Co., Kansas City, in charge of construction operations (approx. \$1 000 000). *TT 4: P 4: RC 4.* Work since 1908 has been general construction, field and office work on all phases of heavy building construction including field design, handled important problems in field. 1921 to 1924 Dist. Mgr., Pittsburgh Office, Permanent Waterproofing Co., Kansas City, Mo., especially on sub-grade waterproofing and engineering, special work in problems of concrete disintegration. *TT 3: P 3: RC 3.* May 1924 to date Vice-Pres. and Secy., Western Waterproofing Co., in charge New York Office, sub-grade waterproofing protection of concrete from disintegration, especially studies of frost action. *TT 0.7: P 0.7: RC 0.7.* *TT 18.7: SP 5.5: P 13.2: RC 13.2.* Refers to R. A. Cummings, T. C. Desmond, T. W. Dix, J. H. Hession, C. H. Nichols, H. von Unwerth.

171 (7) CADE, CLAUDE MARSHALL, P. O. Box 624, East Lansing, Mich. (Age 39. Born Capac, Mich.) 1907 B. S., and 1913 C. E., Mich. State Agri. Coll. June to Sept. 1907 Draftsman, American Blower Co., Detroit, Mich. *TT 2.2: SP 2.2.* Sept. 1907 to Jan. 1908 Instructor, Dept. of Practical Mechanics, Purdue Univ., West Lafayette, Ind. *TT 0.4: P 0.4.* Jan. 1908 to May 1910 Deck Officer and Aid, U. S. Coast and Geodetic Survey. *TT 2.1: P 2.1.* May 1910 to Sept. 1913 Aid and Asst., U. S. Coast and Geodetic Survey, bonded Chf. of Party, precise leveling, primary triangulation, etc. *TT 3.4: P 3.4: RC 3.4.* Sept. 1913 to Sept. 1923 Instructor in, and Sept. 1916 to Sept. 1923 Asst. Prof. of, Civ. Eng., Michigan State Coll. of Agriculture. *TT 10: P 10: RC 7.* Summer vacations, 1917 on design, layout and surveys for City of Lansing (2 months), and supervision, topographic mapping, Camp Custer (1 month); 1918 with U. S. Dept. of Agriculture on drainage investigation (1 month), and at Officers' Training Camp, Ft. Sheridan (2 months); 1919-1924 (3 months each year) on design, layout and surveys for City of Lansing. Sept. 1923 to date Associate Prof. of Civ. Eng., Michigan State Coll. of Agriculture. *TT 1.3: P 1.3: RC 1.3.* *TT 19.4: SP 2.2: P 17.2: RC 11.7.* Refers to W. Bowle, O. E. Eckert, C. V. Hodgson, E. D. Rich, H. C. Woods.

172 (3) CADY, REED WILLIAM, P. O. Box 413, Fonda, N. Y. (Age 43. Born Troupsburg, N. Y.) 1907 C. E., Applied Sci., Syracuse Univ. June 1907 to Aug. 1920 with Dept. of State Engr., New York, on Barge Canal construction, until June 1910 as Rodman, Jun. Asst. Engr. and Inspector at Fulton, Brewerton and Montezuma, on surveys, plans and estimates; then Asst. Engr. in charge, preparing plans, estimates and reports and supervising work done by contractors at Seneca Falls, Tonawanda and Buffalo, work included construction of locks, dams, movable and fixed bridges and earth excavation. *TT 15.2: SP 5: P 10.2: RC 8: D 2.2.* Aug. 1920 to Dec. 1921 Supt. for Contr. in charge of filtration-plant and powerhouse construction at Lorain, Ohio, Lupfer & Remick, Buffalo, N. Y. *TT 1.3: P 1.3: RC 1.3.* Dec. 1921 to May 1923 business and private practice. May 1923 to date Supt. for Contr. constructing bridges, reservoir, etc., E. P. Lupfer Corporation, Buffalo. *TT 1.7: P 1.7: RC 1.7.* *TT 18.2: SP 5: P 13.2: RC 11: D 2.2.* Refers to W. R. Davis, A. J. Dillenbeck, L. S. Hulburd, E. P. Lupfer, G. Moulton, F. P. Williams.

173 (7) CHRISTIANSON, HILMAR BARMAN, 735 Fifth Ave., Marion, Iowa. (Age 32. Born Minneapolis, Minn.) 1915 B. S. C. E., Univ. of Minn. June to Sept. 1915 Materialman, Sperry Realty Co., St. Paul, Minn. *TT 2.3: SP 2.3.* Sept. 1915 to April 1916 Draftsman, Northern Pacific Ry Co., St. Paul. *TT 0.6: SP 0.6.* April 1916 to March 1917 Draftsman, Minneapolis, St. Paul & Sault Ste. Marie Ry. Co. *TT 0.9: SP 0.9.* March 1917 to date (except July 1918 to Jan. 1919 with U. S. Army), with Chicago, Milwaukee & St. Paul Ry. Co., first in Valuation Dept., as follows: March to Sept. 1917 Field Draftsman, Sept. 1917 to Jan. 1918 Instrumentman, Milwaukee Terminal, remaking maps, and in charge of subsidence party; and Jan. to July 1918 Asst. Engr. inventorying tracks and shop buildings, in charge of party; Jan. to June 1919 Asst. Engr., made joint check with Interstate Commerce Comm. field party of notes taken in Company inventory of Chicago terminals; June 1919 to Jan. 1920 Computer in field, Lines West; since Jan. 1920 in Eng. Dept., in Dist. Engr.'s office until May 1922 as Instrumentman, staked new tracks and main line curves, made estimates, surveys and on maintenance work; since then Asst. Engr. at various division points; assisted in locating Ford track, St. Paul, handled field work of staking and constructing Joliet Yard extension, had charge of rebuilding grade after extensive washouts near Omaha; has charge of division office in absence of Div. Engr.; handles correspondence; makes reports, annual bridge inspection, etc. *TT 7.3: SP 3.1: P 4.2: RC 2.* *TT 11.1: SP 6.9: P 4.2: RC 2.* Refers to A. Daniels, O. H. Frick, T. L. D. Hadwen, A. G. Holt, C. T. Jackson, W. H. Penfield, T. H. Strate.

174 (9) CLOUD, ARTHUR FRANKLIN, 900 Renkert Bldg., Canton, Ohio. (Age 22. Born Valparaiso, Ind.) 1924 B. S. in E. (Structural), Univ. of Mich. Sept. 1924 to date Metal Lumber Engr., Berger Mfg. Co., Canton, Ohio, making layouts and estimates for metal lumber structures. *TT 2.3: SP 2: P 0.3: D 0.3.* Refers to J. H. Cissel, L. M. Gram, L. C. Pope, H. E. Riggs, R. E. Rohm, J. S. Worley.

175 (1) CORY, PATRICK M., 343 East 239th St., New York City. (Age 48. Born Middlesex, Vt.) 1901 B. S. in Civ. Eng., Univ. of Vt. July to Oct. 1898 Transitman, City Engr.'s office, Montpelier, Vt. July to Oct. of years 1899 and 1900 Asst. to Gen. Foreman with Ward & Douglass, Montpelier, Contrs. on railroad and foundation work, establishing lines and grades, estimating quantities and costs, stone cutting and setting. July to Nov. 1901 Transitman, City Engr.'s office, Concord, N. H., topographical surveys, mapping, establishing lines and grades. *TT 2.4: SP 2: P 0.4.* Dec. 1901 to Jan. 1903 Transitman, Penn. Steel Co., Steelton, Pa., establishing lines and grades and directing company forces installing the work, in construction of tracks, switches, roads, sewers, power plant, gas producers, blast furnaces, rolling mills, frog and switch shops, machine shops, etc. *TT 1.2: P 1.2.* Jan. to July 1903 Asst. Supt., with H. S. Kerbough, Inc., Harrisburg, Pa., railroad construction, responsible charge drilling and blasting, steam shovel excavation, grading, track laying, heavy masonry construction. *TT 0.5: P 0.5.* Aug. 1903 to Oct. 1917 with New York Central R. R. as follows: Aug. 1903 to June 1904 Transitman, Grand Central Terminal Improvements, establishing base lines, etc., and inspection of sewer construction; June 1904 to June 1906 Asst. Engr. in charge of all inspection; June 1906 to May 1907 Asst. Engr., responsible charge of lines, grades and monthly estimates of cost in connection with construction work of the Grand Central Terminal Improvements; May 1907 to Oct. 1917 Supt. of Constr., responsible charge of Company forces in excavating terminal area and shoring and underpinning structures adjacent; placing concrete in foundations, retaining and underpinning walls, suburban roof, tracks, platforms, protection piers, fireproofing and 1½ miles of street viaducts; installation of sewers, drainage, water and gas lines; temporary and permanent tracks (cost of work over \$6 000 000). *TT 14.2: P 14.2: RC 13.4.* Oct. 1917 to July 1920 Superv. Engr., Naval Operating Base, Hampton Roads, Va., Bureau of Yards and Docks, U. S. Navy, responsible charge of construction of roads, tracks, sewer, water, drainage and steam lines, camps, hangars, heating and refrigerating plants, shops, schools, officers' quarters, administration buildings, piers, bulkheads and hydraulic dredging and filling; member of Labor Board, Civ. Service Comm. (cost of work over \$15 000 000). *TT 2.8: P 2.8: RC 2: D 0.8.* Oct. 1920 to date general supervision for Warren & Wetmore, Archts., of construction of office and bank buildings, apartments, hotels, etc., including Straus Bank & Office Bldg., 5th Ave. and 46th St., Heckscher Bldg., 5th Ave. and 57th St., and All America Cables Bldg., Broad and Stone Sts., New York City; Shelburne Hotel, Atlantic City; Penn Athletic Club Bldg., Philadelphia, Pa. (total over \$20 000 000). *TT 4.2: P 4.2: RC 3.2: D 1.* *TT 25.3: SP 2: P 23.3: RC 18.6: D 1.8.* Refers to M. G. Balcom, F. R. Harris, G. A. Harwood, W. F. Jordan, G. W. Kittredge, H. J. Kolb, W. L. Morse, P. B. Tallman.

176 (8) CRESS, ELDRED EVERETT, 403 Ellis Ave., Champaign, Ill. (Age 28. Born Litchfield, Ill.) 1918 B. Sc., and 1924 C. E., Univ. of Ill. June to Sept. 1916 Draftsman, County Highway Dept., Urbana, Ill. June to Sept. 1917 Test Asst., Dept. of Theoretical and Applied Mechanics, Univ. of Illinois, on test of flat slab floor of Western Newspaper Union Bldg. April to Dec. 1918 Lieut., Coast Artillery, U. S. Army, commanding 9th Co., Los Angeles, taught Trigonometry and Gunnery, Officers Training School. *TT 2.7: (SP 2.4: P 0.3: RC 0.3.* Jan. 1919 to date Asst. Engr. of Tests, Joint Committee on Stresses in Railroad Track (a Committee of Am. Soc. C. E., Am. Ry. Eng. Assoc. and Amer. Ry. Assoc.), to study the stresses developed in railroad track, in charge of field tests in Illinois, Iowa, Montana, New Mexico, California, New Jersey, Pennsylvania, West Virginia and Virginia; supervised reduction and correlation of more than 1 250 000 individual stress readings; helped to prepare Second, Third and Fourth Progress Reports of Committee. *TT 6: SP 2: P 4: RC 4.* *TT 8.7: SP 4.4: P 4.3: RC 4.3.* Refers to M. L. Enger, M. S. Ketchum, J. DeN. Macomb, Jr., L. H. Provine, G. J. Ray, F. E. Richart, A. N. Talbot, C. C. Williams.

177 (7) CRUZ, MAMERTO, 209 South Thayer St., Ann Arbor, Mich. (Age 35. Born San Mateo, Rizal Prov., Philippine Islands.) 1917 C. E., Univ. of Philippines. *TT 2: SP 2.* April 1917 to Aug. 1924 with Bureau of Public Works, Philippine Islands, until Feb. 1918 as Asst. Engr. on location and construction of part of trunk highway (Sn. Jose-Sta. Fe) in Nueva Ecija and Nueva Vizcaya Provinces; then Dist. Engr., supervising location, plans, construction and maintenance of roads and highway bridges and district organization and administration, in Mindaro Dist. (March 1918 to July 1920), also location, construction and maintenance of water supply systems (gravity and pump), and supervision of construction

public buildings, wireless station in this District; in Cagayan Dist. (Aug. 1920 to March 1924), also construction and maintenance of river control works (bank revetments and hurdles), canals and seashore protection works (groins and sea wall) and of public buildings in this District and Superv. Engr. of Cagayan Valley Div. (1920-1921); and in Batangas Dist. (April to Aug. 1924), also construction and maintenance of public buildings, water-supply systems (pump and gravity), electric light plants, and supervising office administration in this District. *TT 7.4: P 7.4: RC 6: D 1.4.* Aug. 1924 to date Philippine Govt. Engr., studying modern methods of highway construction in the United States. *TT 0.1: SP 0.1. TT 9.5: SP 2.1: P 7.4: RC 6: D 1.4.* Refers to A. H. Blanchard, S. V. Z. Cortelyou, E. L. Driggs, R. L. Morrison, R. S. Swinton, C. G. Wrentmore.

178 (5) DARROW, WARREN EDWIN, 3912 Thirteenth St., N. W., Washington, D. C. (Age 39. Born Patchogue, N. Y.) 1907 C. E., Cornell Univ. Jan. to Sept. 1902 Tracer, Plotter, Rodman, and Instrumentman, on surveys, sewer work, with E. F. Smith, C. E., Patchogue, N. Y. Sept. 1903 to April 1907 (about 9 months while student at Cornell Univ.) Instrumentman, Draftsman and Inspector with F. A. Barnes and Long Island R. R. Co., surveys and inspection of masonry, timber and steel bridges. *TT 2.7: SP 2.7.* April 1907 to April 1908 Time and Material Clerk, Instrumentman, Draftsman, Reinforcing Steel Foreman and Concrete Form Designer, Naughton Co. & Arthur McMullen; Asst. to Supt. and Res. Engr. on contract for cut and cover sections, Pennsylvania Tunnel & Terminal R. R., Long Island City; also prepared and checked estimates for Delta Dam and for timber and steel bridges. *TT 1: SP 0.2: P 0.8: RC 0.1: D 0.2.* April 1908 to Jan. 1911 Asst., U. S. C. E. and Supt. of Constr., then Supt., War Dept., Ft. McKinley and fortifications of Portland, Me.; surveys, layouts, drafting, designing for heavy building construction, water supply, sewers, electric lighting, wharves, fortifications, preparing plans, specifications and estimates, and superintending construction of same. *TT 2.7: P 2.7: RC 2.6: D 0.8.* Jan. 1911 to May 1917 Asst. Engr., then 1st Asst. Engr., State of New York, made preliminary surveys and final layout, prepared designs from analysis of data, plans and estimates for city, town and through highways of bituminous macadam, bitulithic, asphalt, brick and concrete paving, also for highway bridges, approaches and retaining walls; superintended construction of same; from Sept. 1919 to Jan. 1920 continued this work, highways, streets, and structural design. *TT 6.6: P 6.6: RC 5: D 4.3.* May 1917 to Sept. 1919 Officer of Engrs., U. S. Army, in charge of surveys and layout, building construction; collaborated on water supply and sewerage, Camp Merritt, N. J.; Military Aide, Bldg. Supply Expediter; design and construction of heavy warehouse terminal and railroad yard, Port Newark Terminal; Co. and Battalion Command, 45th Engrs. and Camp No. 6, A. E. F. *TT 2.4: P 2.4: RC 2.1: D 0.3.* Jan. to June 1920 Commr. of Public Works, Utica, N. Y., in charge of city services maintenance drainage, sewers, street cleaning, electric lighting, refuse collection and disposal; prepared estimates for budget of city services and annual construction; prepared draft of legislative action for eliminating Erie Canal bed from city. *TT 0.4: P 0.4: RC 0.4.* July 1920 to date Designing Engr., Asst. Engr., Corps of Engrs., preparing designs, plans and writing specifications for steel drawbridge repairs, Lincoln Memorial Reflecting Pool, park buildings and improvements, machine shop; repairs to old filter plant, structures for new 10-mile conduit, pipe-lines and tunnels, new filtration plant and pumping station; in charge of construction of same; at present building 80 m. g. d. filtration plant. *TT 4.5: P 4.5: RC 4: D 3. TT 20.3: SP 2.9: P 17.4: RC 14.2: D 8.6.* Refers to H. S. Austin, J. E. Curtis, R. F. Hall, H. C. Keith, R. B. Murdock, M. C. Tyler.

179 (10) DECKER, ASBURY CLINTON, Tenn. Coal, Iron & R. R. Co., Brown-Marx Bldg., Birmingham, Ala. (Age 38. Born Prince Bay, N. Y.) 1909 C. E., Cornell Univ. July to Nov. 1909 Chemist and Bacteriologist, filtration plant, East Jersey Water Co., Little Falls, N. J. *TT 2.4.* Dec. 1909-Dec. 1911 Chemist and Bacteriologist, Tennessee Coal, Iron & R. R. Co., Birmingham, in charge of analyses of domestic water supplies of the company. *TT 1.2: RC 1.2.* March 1913 to date San. Engr., same Company and associated companies, 1 year in charge of operation, since which time work has included design, construction and operation of water supply and water purification works, sewerage and sewage disposal and garbage incinerators (since May 1922 services have been available to all subsidiary companies of U. S. Steel Corporation). *TT 11.9: RC 11.9: D 4.8. TT 17.5: RC 15.1: D 4.8.* Refers to W. B. Allen, J. F. Coleman, F. H. Crockard, H. P. Eddy, G. W. Fuller.

180 (1) DESSERUD, ANTON, 346 Marine Ave., Brooklyn, N. Y. (Age 33. Born Sigdal, Norway.) 1919 C. E., National Inst. of Technology, Trondhjem, Norway. June 1919 to May 1921 Civ. Engr., Board of Elec. Supply of Norway, Trondhjem. *TT 3.9: SP 2: P 1.9: D 1.9.*

May 1921 to June 1924 Civ. Engr., Govt.'s Hydro-Elec. Service in The Netherlands, East Indies, Bandoeng, Java. *TT 3.1: P 3.1: RC 3.1.* Oct. 1924 to date with Elec. Bond & Share Co., New York City. *TT 0.2: P 0.2: D 0.2.* *TT 7.2: SP 2: P 5.2: RC 3.1: D 2.1.* Refers to B. Arneberg, G. Blaauw, W. E. Brown, E. N. Peterson, H. H. Steinhäuser.

181 (7) DeYOUNG, WARREN EDWARD, 500 Catherine St., Ann Arbor, Mich. (Age 29. Born Crystal, Mich.) 1920 B. S., Mich. Agri. Coll. June 1920 to Feb. 1921 Chf. of Survey Party, Michigan State Highway Dept., had charge of field survey party on original surveys and relocations of state highways. *TT 2.7: SP 2.7.* March to Sept. 1921 Field Engr. with C. H. Peterson, Cadillac, Mich., had charge of road and land surveys for consulting engineer. *TT 0.5: P 0.5.* Sept. 1921 to Oct. 1922 Supt. of Constr., Liberty Eng. & Constr. Co., Chicago, Ill., had charge of construction of rural pavements and bridges at Ludington, Mich., and Sommers, Wis. *TT 1.1: P 1.1: RC 1.1.* Oct. 1922 to Dec. 1924 Res. Engr., Illinois Div. of Highways, supervised and inspected construction of rural pavements and bridges. *TT 2.1: P 2.1: RC 0.9.* Dec. 1924 to date United Fuel & Supply Co. Fellow in Highway Eng., Univ. of Michigan. *TT 0.1: P 0.1.* *TT 6.5: SP 2.7: P 3.8: RC 2.* Refers to R. R. Benedict, A. H. Blanchard, G. C. Dillman, W. J. Kingscot, R. L. Morrison, R. S. Swinton, W. S. Todd.

182 (6) DOERING, ALOYSIUS HENRY, 715 Walnut St., Martins Ferry, Ohio. (Age 38. Born Burlington, Iowa.) 1901 to 1903 Apprentice in Structural Drafting, American Bridge Co., Pittsburgh, Pa. 1903 to 1904 Draftsman and Designer, Somerville Eng. Co., Pittsburgh. 1904 to 1906 Draftsman and Designer, The Ritter-Conley Mfg. Co., Pittsburgh. 1906 to 1908 Designing and Estimating Engr., Pittsburgh Bridge & Iron Works, Rochester, Pa. *TT 7: SP 7.* 1908 to 1916 with Riverside Bridge Co., Martins Ferry, Ohio, first as Designing and Estimating Engr., then Engr. in charge of designing and estimating, and later with title Engr. of Structures, designed almost every form of steel structure, including buildings, cantilever bridges, draw spans, arches, etc., also several reinforced concrete bridges. *TT 8: P 8: RC 5: D 8.* 1916 to 1924 with Riverside Bridge Co. as Operating Engr. (2 years) in charge of designing, estimating and drafting room, then Chf. Engr. (6 years) in charge of designing, estimating and sales. *TT 8: P 8: RC 8: D 8.* 1924 to 1925 Chf. Engr. and Gen. Mgr., Carl W. Shimp Co., Gen. Contrs., Martins Ferry, Ohio, general business, routine and designing. *TT 1: P 1: RC 1: D 1.* *TT 24: SP 7: P 17: RC 14: D 17.* Refers to C. C. Burgess, E. P. Fox, F. A. Hastings, C. B. Pyle, A. B. Tallmadge.

183 (1) DUFFY, JAMES MERRITT, 33 East Post Road, Mamaroneck, N. Y. (Age 42. Born White Plains, N. Y.) 1903 to 1908 with Village Engr., White Plains, N. Y. *TT 5: SP 5.* 1908 to date member of firm, Carpenter & Duffy, Mun. Engrs., on surveys, etc., for towns and village of Mamaroneck, Rye, Harrison, White Plains and vicinity; Village Engr. of Port Chester, on plans, profiles, design for sewers and disposal works (value of project \$200 000), in charge of construction work (\$75 000), road improvements (\$200 000) (1909 to 1914); Engr. in charge of construction of sewers, roads, water supply and sidewalks for Town of Harrison (\$300 000) (1910 to date); for Village of Mamaroneck made plans for sewer system (estimated cost \$200 000, not built) (1910 to 1912), Village Engr. in charge of improvements, including roads, pavements, sewers, etc. (\$500 000) (1912 to 1925), and Engr. in charge on construction of sewers and disposal works (\$350 000) (1922 to 1924) and on dredging of harbor, construction of pier and beach, Harbor Island (\$150 000) (1924 to 1925). *TT 16: P 16: RC 16: D 16.* *TT 21: SP 5: P 16: RC 16: D 16.* Refers to C. L. Bogert, G. W. Fuller, J. C. Harding, J. F. Sanborn, G. T. Seabury, L. E. Van Etten.

184 (2) ENNIS, WILLIAM JOSEPH, 62 Sharon St., Hartford, Conn. (Age 31. Born Hartford, Conn.) 1918 B. S. in Arch., Catholic Univ. of America, Washington, D. C. June to Sept. 1916 Clerk of Works, Material Checker, Rodman, Timekeeper, Draftsman, on minor detailing in connection with residence and factory construction, R. F. Jones Constr. Co., Hartford, Conn. *TT 0.2: SP 0.2.* June to Sept. of years 1917 and 1918 Rodman and Transitman and (3 months) Inspector, New York, New Haven & Hartford R. R. Co., then, Sept. 1918 to Sept. 1919, Field Engr. in responsible charge of maintenance-of-way construction, designed and supervised construction of 6-track bulk yard (100 car capacity), and directed construction of reinforced concrete bridge abutments and retaining walls and bridge work. *TT 1.4: SP 0.4: P 1: RC 1.* Sept. 1919 to Aug. 1922 with Buck & Sheldon, Inc., Hartford, 1 year as Architectural and Structural Draftsman on all types of buildings, Transitman on sewerage and water systems, computing and mapping; then (approx. 2 years) in responsible charge of design (chiefly architectural) and specification writing on schools, hospital, factory, warehouse and residence buildings of all types of construction. *TT 3: SP 1: P 2: RC 2: D 2.* Aug. 1922 to date Deputy Bldg. Commr., Dept. of Bldg. Inspection,

Hartford, responsible charge of plan and specification examining and checking; issuing of permits (value of construction approved over \$35 000 000), conducting investigations and writing reports on structural failures in buildings; testing materials of construction and compiling reports on tests; Advisor on building code requirements and local and state laws and ordinances pertinent to building construction; directing the work of all inspectors in the department; receiving reports of inspections, general supervision of department. TT 2.5: P 2.5: RC 2.5. TT 7.1: SP 1.6: P 5.5: RC 5.5: D 2. Refers to N. D. Brainard, H. R. Buck, J. T. Henderson, A. S. Lynch, R. J. Ross, P. Sheldon, M. A. Wadhams.

185 (11) FELT, HALL MERLE, 747 New York St., Long Beach, Cal. (Age 23. Born Omaha, Nebr.) Feb. to Aug. 1920 and July 1921 to Jan. 1922 Chainman, and Jan. 1922 to date Draftsman, Eng. Dept., Long Beach, Cal., past 2 years on sanitary engineering and assessment work. TT 4: SP 4. Refers to G. E. Baker, A. L. Ferver, J. G. Spielman, R. D. Van Alstine, L. G. Williams.

186 (4) FRYE, MARCUS, Jr., City Hall, Vineland, N. J. (Age 28. Born Vineland, N. J.) 1919 B. S. in C. E., Univ. of Pa. June 1914 to Oct. 1915 and two summer vacations Instrumentman, Inspector and Draftsman with Marcus Frye, Sr., Engr., Vineland, N. J. TT 3.3: SP 3.3. June 1919 to Sept. 1921 in private practice (continuing business of his father), surveys, town planning, grades, divisions, some architectural design, etc., in Vineland and in Cumberland and Cape May Counties. TT 2.2: P 2.2: RC 2.2. Sept. 1921 to Jan. 1925 Borough Engr. of Vineland, designing, engineering and inspection of extensions to municipally-owned electric, water and sewer plants, installing new underground electric system, extensive redesigning of water system, etc. TT 3.3: P 3.3: RC 3.3: D 3.3. TT 8.8: SP 3.3: P 5.5: RC 5.5: D 3.3. Refers to H. C. Berry, W. Easby, Jr., E. H. Maler, W. S. Pardoe, J. C. Remington, C. L. Warwick.

187 (1) FUCHS, GEORGE ALEXANDER, 1159 52d St., Brooklyn, N. Y. (Age 21. Born New York City.) Over 4 years student (evenings), Brooklyn Pol. Inst. June 1920 to June 1921 Jun. Draftsman, A. E. Norton (Structural Steel Co.). TT 1: SP 1. July 1921 to March 1922 Timekeeper and Engr. in field, W. W. Construction Co., Bldrs. TT 0.7: SP 0.7. March to May 1922 Jun. Architectural Draftsman, Schwartz and Gross, New York City, made detail drawings. TT 0.2: SP 0.2. Feb. to July 1924 estimating, drawing and assisting in supervision of erection of steel work, Fassler Iron Works. TT 0.5: SP 0.5. July to date Jun. Asst. Engr., Grade I, 3 months with New York State Highway Dept., Poughkeepsie, N. Y., and since then with Bronx Parkway Comm., Bronxville, N. Y., making maps, computing and laying out new roads. TT 0.5: SP 0.5. TT 2.8: SP 2.8. Refers to H. G. Babcock, A. G. Hayden, A. Geist, G. W. Schusler, E. J. Squire.

188 (3) GEORGE, GARDNER CLIFFORD, 719 Holcomb St., Watertown, N. Y. (Age 36. Born South Groveland, Mass.) 1911 S. B., Mass. Inst. Tech. June to Sept. 1910 Draftsman, Lombard Governor Co., Ashland, Mass., on machine details and power plant layouts. TT 2: SP 2. June to Nov. 1911 Rodman, Delaware, Lackawanna & Western Ry. TT 0.4: SP 0.4. Dec. 1911 to Dec. 1912 Asst. Engr., Board of Water Supply, New York City, on surveys and inspection of city aqueduct. TT 1: P 1. Dec. 1912 to Feb. 1913 and Sept. 1913 to April 1914 Asst. Surveyor and Draftsman, Registrar of County of New York, New York City, on maps showing subdivisions of Island of Manhattan by property transfers from earliest records to the present. TT 0.8: P 0.8. Feb. to Sept. 1913 Draftsman, Mexican Northern Power Co., Santa Rosalia, Chihuahua, Mexico, on design for hydro-electric construction. TT 0.6: P 0.6: D 0.6. April 1914 to Sept. 1917 and Feb. 1919 to Feb. 1923 Asst. Engr., Bureau of Highways, Dept. of Public Works, New York State, in charge of construction contracts for 31 miles of bituminous macadam highways, 13 miles of concrete and 15 miles of brick; repair of 85 miles of bituminous and waterbound roads; and design and plans for several highways. TT 7.4: P 7.4: RC 7.4: D 2. Sept. 1917 to Feb. 1919 1st Lieut., Engr. Corps, U. S. Army, instructing and training engineer companies at various camps in United States. TT 1.4: P 1.4: RC 1.1. Feb. 1923 to date Designing Engr., Northern New York Utilities, Inc., and Power Corporation of New York, in charge of designs for Herring hydro-electric plant, installation of 4th Unit for Eagle Falls Plant and Soft Maple Plant. TT 2: P 2: RC 2: D 2. TT 15.6: SP 2.4: P 13.2: RC 10.5: D 4.6. Refers to C. C. Cassel, W. P. Creager, J. H. Gandolfo, R. F. Hall, W. T. Hopkins, J. D. Justin.

189 (1) GIONGO, GUIDO LEONE, 14 Washington St., Bloomfield, N. J. (Age 27. Born Trieste, Italy.) 1923 C. E., R. Università di Padova, Scuole d'Applicazione per gli Ingegneri. Jan. to March 1924 Asst. to Plant Supt., general assembly of manufactured equipment fire apparatus, Walter Kidde & Co., Inc. TT 2.2: SP 2.2. March to Dec. 1924 Drafting and

designing, Jenkins Mfg. Co. TT 0.8: SP 0.5: P 0.5: D 0.5. Dec. 1924 to date drafting and designing, Walter Kidde & Co., Inc. TT 0.1: P 0.1: D 0.1. TT 3: SP 2.5: P 0.5: D 0.5. Refers to P. L. Braunworth, A. Fischer, Jr., A. B. Miller, J. R. Smith, E. L. Zeitner. 190 (1) GOELLER, CHARLES, 24 Wilbur Ave., Newark, N. J. (Age 48.) Born Speyer, Germany. Licensed Prof. Engr. in Structural Eng., State of New Jersey. 1891 to 1898 (evenings) student, Newark Technical School (2 years), Newark Evening Drawing School (now Fawcett School of Art), in structural steel drawing and designing (3 years), and Pratt Inst., Brooklyn, in resistances of building materials and structural steel designing (2 years). 1893 to 1914 Shop Hand in structural steel and ornamental iron, Steel Erection Foreman, Estimator, Designer and Detailer, and finally Pres. and Gen. Mgr., Goeller Iron Works, Newark, N. J. 1914 to date Owner and Gen. Mgr., Charles Goeller Constr. Co., Newark. structural steel and ornamental iron work, on design and in responsible charge of work. TT 32: SP 9: P 23: RC 11.5: D 11.5. Refers to J. L. Averill, M. R. Everett, W. A. Kinsey, H. A. Philip, G. E. J. Pistor, H. D. Scudder, Jr., M. N. Shoemaker.

191 (1) GRAF, EMIL MAX, 312 Cumberland St., Brooklyn, N. Y. (Age 24. Born Zurich, Switzerland.) 1922 C. E., Federal Polytechnical Inst., Zurich, Switzerland. July to Oct. 1919 Surveyor, Draftsman, Swiss Federal R. R., hydro-electric power plant, Rapperswil, Switzerland. TT 2: SP 2. March to May 1921 Draftsman, Swiss Reclamation Committee, reclamation of Linth Valley. TT 0.2: SP 0.2. Oct. 1922-June 1923 Designer, Siemens Eng. Co., Berlin, Germany, water-supply and sewage-disposal plants. TT 0.8: P 0.8: RC 0.3: D 0.8. Aug. 1923 to March 1924 Draftsman and Designer with N. S. Hill, Jr., Cons. Engr., water supply and sewerage water-works of Tampa, Fla. TT 0.7: SP 0.3: P 0.4: D 0.4. April 1924 to date Designer, hydro-electric power plants, Elec. Bond & Share Co., Hydr. Div., New York City, on power plants, Wallenpaupack, Pa., Cutler Lara Soda Hydro-electric Developments, Utah. TT 0.8: P 0.8: D 0.8. TT 4.5: SP 2.5: P 2: RC 0.3: D 2. Refers to G. Blaauw, H. H. Chase, N. S. Hill, Jr., S. K. Knox, A. T. Ricketts, H. H. Steinhäuser.

192 (9) GRAHAM, WALLACE EDWIN, Parkway Drive, Mansfield, Ohio. (Age 34. Born Louisville, Ky.) Nov. 1910 to Dec. 1913 Rodman, Transitman and Tunnel Inspector, and Dec. 1913 to Dec. 1915 Res. Engr. on construction, Louisville and Nashville R. R. Co. TT 3.9: SP 1.9: P 2: RC 2: D 2. Dec. 1915 to Sept. 1916 Transitman, Southern R. R. TT 0.6: SP 0.6. Sept. 1916 to May 1917 Topographer, Transitman, and Chf. of Party and May 1917 to April 1918 Asst. Supervisor of track, Newark to Columbus, Ohio, and Asst. Engr., Maintenance Dept., Baltimore & Ohio R. R. Co. TT 1.6: SP 1.1: P 0.5: RC 0.5: D 0.5. April 1918 to Oct. 1923 with Atlantic Coast Line R. R. Co., until Nov. 1921 as Div. Engr., Cons. Dept., in south Florida and over entire system, then (1 year) Supt. Cons., building 35 miles in southern Florida, and after Nov. 1922 Trainmaster, Lakeland, Fla. TT 5.4: SP 0.9: P 4.5: RC 4.5: D 4.5. Oct. 1923 to date with B. & O. R. R. Co., five months as Chairman, 7 months Gen. Foreman, double-tracking, Grafton, W. Va., and since Sept. 1924 Track Supervisor. TT 1.3: SP 1.3. TT 12.8: SP 5.8: P 7: RC 7: D 7. Refers to A. R. Carver, J. B. Jenkins, S. A. Jordan, E. G. Lane, C. E. Rozzelle, J. E. Willoughby.

193 (4) GRIMES, MAURICE WASON, 312 Chestnut St., Audubon, N. J. (Age 53. Born Princeton, Mass.) 1892 B. S., Worcester Pol. Inst. Sept. 1892 to July 1895 Transitman in City Engr.'s Office, Somerville, Mass. TT 4.7: SP 4.7. July 1895 to July 1901 (except short periods in winter) Res. Engr., Massachusetts Highway Comm., on construction of state roads, preliminary surveys, estimates. TT 6: P 6: RC 6. July to Dec. 1901 Eng. Inspector, Metropolitan Water Board, inspection of masonry, Weston Aqueduct. TT 0.5: SP 0.5. Feb. 1902 to July 1905 with Constr. Corps, Pennsylvania R. R., until May 1903 as Rodman, then Leveler, in charge (under Asst. Engr.) of construction of section low-grade freight line near Parksburg, Pa. TT 3.4: SP 1.2: P 2.2: RC 2.2. July 1905 to Dec. 1907 Res. Supt., American Pipe Mfg. Co., on construction of pipe lines for water supply for P. R. R. TT 2.4: P 2.4: RC 2.4. April 1908 to Dec. 1910 Leveler, Dept. of New York State Engr., on construction of lock and movable dam at Ft. Plain, N. Y. TT 2.7: SP 2.7. Dec. 1910 to May 1919 Asst. Engr., same Department, on construction of lock and dam (4 months), Designing Room, Bureau of Locks and Dams, designs, plans, estimates (about 5 years), Bureau of Hydraulics on stream measurement work (about 3 years). TT 8.5: P 8.5: RC 1.5: D 1. June 1919 to July 1920 Asst. Engr., Valuation Dept., New York Central R. R., preparation of maps and collection of data. TT 1.1: SP 1.1. Dec. 1922 to July 1924 Res. Engr., J. B. McCrary Eng. Corporation, Atlanta, Ga., street paving, sewer and water extensions at Thomasville, N. C. TT 1.7: P 1.7: RC 1.7. TT 30.9: SP 10.2: P 20.8: RC 13.7: D 1. Refers to J. A. Johnston, W. B. Landreth, C. H. MacCulloch, C. F. Stickney, F. P. Williams, E. V. Young.

194 (6) HAMMELEF, PETER CHRISTENSEN, 616 Jamison St., Parkersburg, W. Va. (Age 30. Born Detroit, Mich.) 1916 B. C. E., Univ. of Mich. July 1916 to Feb. 1917 Draftsman, Russel Wheel & Foundry Co., Detroit, Mich. TT 2.6: SP 2.6. Feb. to May 1917 Draftsman and Fieldman with Gardner S. Williams, Cons. Engr., Ann Arbor, Mich. TT 0.2: SP 0.2. May 1917 to Jan. 1918 with Black & Veatch, Cons. Engrs., Kansas City, Mo., as Asst. Res. Engr. at Augusta, Kans., in charge of work. TT 0.7: P 0.7. Jan. 1918 to Jan. 1919 Draftsman, Detailer and Checker, Ford Motor Co., Marine Dept., Detroit. TT 0.9: SP 0.9. Jan. 1919 to Oct. 1920 with John C. Hammelef, Bldg. Contr., Detroit, supervising details on residential and store construction. TT 1.7: SP 1.7. Oct. 1920 to July 1921 Prin. Asst. to Borough Engr., Ambridge, Pa., in charge of office and field details. TT 0.8: P 0.8. July 1921 to May 1923 with Pennsylvania Dept. of Highways, New Castle, Pa., as Inspector, Designer, Res. Engr. in charge of construction in Butler and Lawrence Counties. TT 1.8: SP 0.4: P 1.4: RC 0.9: D 0.5. May 1923 to date Engr., Connell, Laub & Bracht, Dayton, Ohio, in charge of all engineering work for road contractors (48½ miles completed in West Virginia and Pennsylvania). TT 1.7: P 1.7: RC 1.7. TT 10.8: SP 5.8: P 4.5: RC 2.6: D 0.5. Refers to C. H. Bucklus, H. W. Claybaugh, A. J. Decker, W. C. Hoad, H. E. Riggs, J. H. Robinson, H. E. Snyder.

195 (2) HENDRICK, THOMAS KELLEY ANTHONY, 51 Prospect St., New Haven, Conn. (Age 33. Born Taftville, Conn.) 1913 Ph. B., Sheffield Sci. School, 1915 C. E., Yale Univ. Sept. 1913 to June 1914 Asst. in instruction, Dept. of Civ. Eng., Yale Univ. TT 2.7: SP 2.7. June to Oct. 1914 Teacher in surveying, Dept. of Civ. Eng., Yale Univ. TT 0.2: P 0.2. Oct. 1914 to June 1915 Asst. in instruction and June to July 1915 Teacher in surveying in summer course, Dept. of Civ. Eng., Yale Univ. TT 0.8: P 0.8. July to Oct. 1915 Rodman, and Nov. 1915 to Sept. 1916 Draftsman, New York Central R. R. TT 1.2: P 1.2. Oct. 1916 to June 1917 Teacher of higher mathematics, astronomy, surveying and physics, Mount St. Mary's Coll., Emmitsburg, Md. TT 0.7: P 0.7: RC 0.7. Aug. 1917 to Jan. 1919 with U. S. Army, until Aug. 1917 as Candidate Officer, 2d Officers' Training Camp, Fort Monroe, Va., in Coast Artillery Service; from Nov. 1917 to Aug. 1918 2d Lieut., officer duty, 2 months en route to France, 2 months at Heavy Artillery School, Mally le Camp, France, one month at French Narrow and Standard Gauge School, and over 2 months with Batteries L. and F., 53d Artillery, C. A. C., at Front north of Toul and in Champagne Sector north of Suippes; after Aug. 1918 with 3d Battalion, 42d Artillery, C. A. C., as Engr. Officer, Oct. 1918 became 1st Lieut., and Dec. 1918 and Jan. 1919 Officer Duty, Battery E. TT 1.3: P 1.3: RC 0.7. Jan. to Sept. 1919 Recorder, Board on Claims for Lost Private Property, Headquarters, S. O. S. Tours and Paris, France. TT 0.7: P 0.7: RC 0.7. Oct. 1919 1st Lieut., Commanding Officer, Casual Co. No. 5271. TT 0.1: P 0.1: RC 0.1. Nov. 1919 to date Instructor in Eng. Mechanics, Sheffield Scientific School, Yale Univ., after Oct. 1921 in charge of Elementary Mechanics Laboratory; June to Sept. 1920 Designer, Engr. of Structures Office, Exterior Zone, New York Central R. R.; June to July and Aug. to Sept. 1921 and Sept. to Oct. 1922 Teacher in surveying, summer course, Dept. of Civ. Eng., Yale Univ.; July 1921 in charge of surveying, beginning summer camp. June to Aug. 1922 Instructor, and June to Aug. 1923 and June to Aug. 1924 in charge of course, in surveying, summer camp, Yale School of Forestry, Milford, Pa. Summers 1923 and 1924 also Teacher of Ballistics to R. O. T. C. students. June 1924 became Captain, C. A., O. R. C. TT 5.3: P 5.3: RC 3.9: D 3.8. TT 13.2: SP 2.7: P 10.5: RC 6.2: D 3.8. Refers to C. T. Bishop, P. G. Laurson, Z. H. Sikes, C. J. Tilden, J. C. Tracy, H. T. Welty.

196 (7) HENSON, FREDERICK JOHN, Huron, S. Dak. (Age 38. Born Tiverton, Devon, England.) 1908 received diploma of Royal San. Inst., London, England. 1909 C. E., Inst. of Mun. and County Engrs., London. Jan. 1902 to Oct. 1906 Articled Pupil to Borough Engr. and Surveyor, Tiverton, England. TT 6.7: SP 6.7. Oct. 1906 to June 1910 Chf. Asst. Engr. and Surveyor, paving, sewerage and sewage disposal, water-works, sidewalks, building construction, etc., Tiverton. TT 3.8: SP 1: P 2.8: RC 2.8: D 1. June to Dec. 1910 Constr. Engr., City of Winnipeg, Man., Canada, sewer construction, surveys and computations for proposed new water supply. TT 0.5: P 0.5: RC 0.5. June 1911 to Aug. 1916 member of firm, Henson & Co., Gen. Contrs., Victoria, B. C., Canada, construction reinforced concrete structures, sidewalks, curb and gutter, etc. TT 1.5: P 1.5: RC 1.5. May 1917 to May 1918 cost accounting on construction of new power plant and stamp mills, Alaska Treadwell & Alaska Juneau Min. Cos., Douglas, Alaska. June to Dec. 1918 topographic mapping, Central Map Reproduction Plant, U. S. Army, 472d Engrs., War Coll., Washington, D. C. TT 0.5: P 0.5 Jan. to May 1919 Asst. Highway Engr., State Highway Dept., Pierre, S. Dak., highway design and computations and designs of reinforced concrete culverts. TT 0.4: P 0.4: RC 0.4: D 0.4. May 1919 to May 1923 City Engr. of Mitchell, S. Dak., paving, sewers, side-

walks, new water-works, pumping plant, water mains, public buildings, etc. *TT 4: P 4: RC 4: D 4.* May 1923 to date with Portland Cement Association, Minneapolis, Minn., until May 1924 as Office Engr., and in charge of replying to problems of concrete design, and since then Field Engr. in charge for South Dakota educational work among engineers and architects and colleges in South Dakota relating to concrete construction and design. *TT 1.7: P 1.7: RC 1.7.* *TT 19.1: SP 7.7: P 11.4: RC 10.9: D 5.4.* Refers to F. S. Altman, J. M. Brown, A. A. Chenoweth, N. D. Dean, W. E. Hart, F. LeCocq, E. H. Quinney.

197 (11) HOGOBOOM, WILLIAM CORYELL, 1022 N. Wilcox Ave., Los Angeles, Cal. (Age 35. Born Wahoo, Nebr.) 1914 B. S. in Min. Eng., and 1918 E. M. Mo. School of Mines. June 1914 to June 1915 Asst. Geologist, Missouri Bureau of Geology and Mines, gathering water well logs and other geological field data, compiling and correlating this data and incorporating the information in sections of report on underground water resources of the State. *TT 3: SP 2: P 1: RC 1.* June 1915 to June 1916 Geologist, Southeast Missouri Lead Co. and H. J. Cantwell, in charge of churn and diamond-drill prospecting, with daily report, for disseminated lead, Washington County, Mo. *TT 1: P 1: RC 1.* June 1916 to Feb. 1918 Supt., St. Louis-Miami Min. Co., Potosi Zinc Co., Oko Zinc & Lead Co., Picher, Okla., in charge of prospecting, shaft sinking, mining and development, purchase of mining and milling machinery, supplies, etc., building construction and machinery installation. *TT 1.7: P 1.7: RC 1.7.* Feb. 1918 to April 1919 with Co. C, 27th Engrs., A. E. F., mining regiment. *TT 1.2: SP 1.2.* June to Sept. 1919 Millman and Mine Surveyor, Bonanza King Mine, Fenner, Cal., operating flotation mill, mine surveying. *TT 0.2: SP 0.2.* Oct. 1919 to June 1921 Engr., Atlas Portland Cement Co., Hannibal, Mo., plant engineering, surveys and mapping, civil and mechanical design, engineering estimates and calculations. *TT 1.7: SP 0.2: P 1.4: D 1.4.* July 1921 to Jan. 1923 Asst. Supt., White Hills Min. Co., supervision of mining and development work, remodeling of mill, installation of mine, mill, and power-plant machinery; surveying, mapping, assaying and other engineering work. *TT 1.5: P 1.5: RC 1.5.* Jan. to Nov. 1923 Engr., Design Div., Eng. Dept., Union Oil Co., Los Angeles, civil engineering designing, estimates, calculations, etc. *TT 0.8: P 0.8: D 0.8.* Nov. 1923 to Dec. 1924 Jun. Civ. Engr., North Outfall Sewer, City of Los Angeles, civil and structural engineering design. *TT 1.1: P 1.1: D 1.1.* Dec. 1924 to date Structural Engr., Bridge Dept., Los Angeles, structural engineering design. *TT 0.1: P 0.1: D 0.1.* *TT 11.2: SP 2.5: P 8.7: RC 5.2: D 3.5.* Refers to R. M. Fox, E. G. Harris, W. E. Jessup, F. W. Karge, C. W. Lawrence, E. S. McCandliss, C. E. Noerenberg, W. D. Smith, H. A. Van Norman.

198 (2) HOLMGREN, RICHARD SIGFRID, 208 Granite St., Manchester, N. H. (Age 29. Born Worcester, Mass.) 1920 B. S., Mass. Inst. Tech. June to Nov. 1920 with H. K. Barrows as Transitman and later Chf. of Party on surveys. *TT 2.4: SP 2.3: P 0.1: RC 0.1.* Dec. 1920 to May 1921 with L. H. Shattuck, Inc., on study of, report on, and recommendations for, sewerage system of Manchester, one-half of time on design of extensions. *TT 0.5: SP 0.3: P 0.2: D 0.2.* May to Sept. 1921 with Holyoke Water Power Co., on design of water-power and boiler installation and power-house extension. *TT 0.3: P 0.3: D 0.3.* Oct. to Dec. 1921 in charge of layout work and Inspector, on construction of Wheeler Reservoir Dam, and May to Dec. 1922 Field Engr. in charge of work at Wheeler Reservoir for H. K. Barrows. *TT 1: SP 0.1: P 0.9: RC 0.9.* Jan. to April 1922 on design of turbine foundation and piping layout in power-house extension, and Jan. to March 1923 prepared preliminary estimates on two proposed hydro stations, for Holyoke Water Power Co. *TT 0.5: P 0.5: RC 0.2: D 0.3.* March 1923 to date with L. H. Shattuck, Inc., on design of hydro-electric development and dams for storage reservoir; 6 months Res. Engr.; numerous reports and estimates on other projects; at present Designing Engr. *TT 1.8: P 1.8: RC 1: D 0.8.* *TT 6.5: SP 2.7: P 3.8: RC 2.2: D 1.6.* Refers to R. E. Barrett, H. K. Barrows, D. Porter, P. A. Shaw, G. G. Shedd, C. M. Spofford.

199 (1) JOB, JAMES ROBERT, 237 West 107th St., New York City. (Age 25. Born Shamokin, Pa.) 1922 C. E., Lehigh Univ. Vacations 1916 to 1922 (total 2 years) Asst. Surveyor and Draftsman, Susquehanna Collieries Co., Nanticoke, Pa., mine surveying and map, track and building work. *TT 3: SP 3.* Aug. 1922 to May 1923 Draftsman, etc., Pennsylvania R. R. System, Dept. of Maintenance of Way and Structures, Pittsburgh, Pa., drafting, estimating and inspection, also considerable transit and level work. *TT 0.7: SP 0.3: P 0.4: RC 0.2: D 0.1.* July 1923 to Jan. 1925 Engr. and Timekeeper, Lehigh Structural Steel Co., Allentown, Pa., had charge of correction in field of errors of shop and design; active charge of two jobs during last 3 weeks of erection; also handled business details on field work. *TT 1.5: SP 0.5: P 1: RC 0.5: D 0.5.* *TT 5.3: SP 3.9: P 1.4: RC 0.7: D 0.6.* Refers to W. O. Barkley, R. J. Fogg, M. O. Fuller, W. H. Mohr, H. B. Thorn, W. L. Wilson.

200. (5) **JOHNS, CHARLES WHITE**, Care, Chesapeake & Ohio Ry. Co., Richmond, Va. (Age 49. Born Farmville, Va.) 1890 to Sept. 1899 Rodman, Chairman, and Instrumentman, Norfolk, Wilmington & Charleston Ry., with City of Portsmouth, Va., on engineering work, and with Graham & Riddle, and Haensselman & Smith, Engrs., on surveys, subdivision work, etc. *TT 9: P 9.* Sept. 1899 to date with Chesapeake & Ohio Ry. Co. as follows: Sept. 1899 to May 1900 Instrumentman; May 1900-July 1903 Asst. Engr. on construction of joint C. & O. and S. A. L. passenger station, Richmond, Va., line and grade revision on James River Dist. and grade separation at Charlottesville, Va.; Aug. 1903-Nov. 1904 Asst. Engr. in charge of construction of passing sidings, yards and roadway buildings; Dec. 1904-April 1906 Asst. Div. Engr. in charge of maintenance of branch lines on West Virginia Gen. Div.; May-June 1906 Div. Engr., Huntington Div.; July 1906-Jan. 1914 Asst. Engr. M. of W. and Engr. M. of W., in charge of maintenance on West Virginia Gen. Div.; Feb. 1914-July 1920 Engr. of branch lines, and Aug. 1920-March 1921 Engr. of Constr. in charge of all construction west of Richmond; April 1921-Dec. 1922 Engr. of Constr. handling work of Chf. Engr.; since Jan. 1923 Chf. Engr. at Richmond. *TT 25.5: P 25.5: RC 21.6. TT 34.5: P 34.5 RC 21.6.* Refers to R. N. Beglen, H. Frazier, J. P. Nelson, A. J. Saville, E. Stimson.

201. (10) **JONES, WILLIAM GOODWIN**, Municipal Bldg., Raleigh, N. C. (Age 42. Born Petersburg, Va.) Registered Civ. Engr., State of North Carolina. 1904 to 1908 Rodman, Chairman, Leveler, Topographer and Transitman, Seaboard Air Line and Carolina, Clinchfield & Ohio Rys. *TT 3: SP 3.* 1908 to 1913 Sergeant, H. Co., U. S. Engrs., 6th Inf., U. S. Army, acting as Instrumentman; with Constr. Quartermaster, on construction of docks, ice plants, railroads and fortifications in various posts in the Philippines, chiefly at Corregidor and Grande Islands, instrument work and superintending construction. *TT 5: SP 5.* 1913 to 1915 Transitman and Asst. to Res. Engr. and Inspector for Gilbert C. White, Cons. Engr., Durham, N. C., on municipal work, water, sewers, paving, etc. *TT 2: SP 2.* 1915 to 1917 and 1920 to 1921 Civ. Engr. and Supt. of Constr. for Robert G. Lassiter & Co., Contr. Engrs., Raleigh, N. C., first two years in responsible charge of municipal work in various towns in North Carolina, and last year of paving and sewer work, with responsibility of furnishing lines, grades and layouts for municipal improvements in Nash and Beaufort Counties, N. C. (1 year). *TT 3: SP 2: P 1: RC 0.7: D 0.8.* 1917 to 1920 Res. Engr. in responsible charge of construction for Tucker & Laxton, Inc., Charlotte, N. C., on hydro-electric power house, dam, 20 miles of transmission line in Houston County, Ala., laying out and supervising government work at Camp Jackson, Columbia, S. C., and surveys, layouts, designs and supervision of construction of water and sewer systems in North and South Carolina. *TT 3: P 3: RC 8.* 1921 to 1923 Res. Engr., Carolina Eng. Co., Charlotte, in responsible charge of layout, design and supervision of water and sewer systems and paving (asphalt and concrete). *TT 2: P 2: RC 1.5: D 0.5.* 1923 to 1924 Res. Engr. for William C. Olsen, Cons. Engr., Raleigh, in responsible charge of water-works improvements, remodeling old filters, new coagulating basin and 2½ miles of 24-in. and 30-in. cast iron supply line. *TT 1.2: P 1.2: RC 1.2: D 0.2.* 1924 to date City Engr. of Raleigh. *TT 0.2: P 0.2: RC 0.2: D 0.2.* *TT 19.5: SP 12: P 7.5: RC 6.5: D 1.2.* Refers to G. H. Bishop, C. M. Lambe, W. C. Olsen, E. L. Scruggs, R. D. Welsh.

202. (1) **KERN, WERNER RICHARD**, 53 Elm Ave., Mt. Vernon, N. Y. (Age 34. Born Aarau, Switzerland.) 1913 Diplom. Engr., Royal Bavarian Pol. High School, Munich. Aug. 1913 to Aug. 1923 with Kern & Co., Ltd., Mfrs. of scientific instruments, Aarau, Switzerland, in charge of design, especially for astronomical, optical, surveying and testing instruments for engineering construction, also for military instruments; after March 1917 Director of company, in charge of the manufacturing and commercial ends. *TT 12: SP 2: P 10: RC 10: D 10.* Aug. 1923 to date on design and Director, R. W. Cramer & Co., Inc., New York City. *TT 1.4: P 1.4: RC 1.4: D 1.4.* *TT 13.4: SP 2: P 11.4: RC 11.4: D 11.4.* Refers to O. H. Ammann, W. Bowle, R. L. Faris, P. E. Gisliger, C. V. Hodgson.

203. (5) **LEE, JOHN CLIFFORD HODGES**, Room 2706 Munitions Bldg., Washington, D. C. (Age 37. Born Junction City, Kans.) 1909 U. S. Mil. Acad. 1911 The Engr. School, U. S. Army. 1918 Army Staff Coll. Sept. 1909 to Aug. 1910 student officer under various U. S. Dist. Engrs. and (5 months) under Chairman and Chf. Engr., I. C. C., Panama. *TT 5: SP 4: P 1.* Sept. 1910 to Oct. 1911 at Engr. School, Washington Barracks, D. C. *TT 1.1: P 1.1: D 0.6.* Oct. 1911 to Dec. 1912 with Co. M, 3d Bn., Engrs., Ft. Leavenworth, Kans., construction small bridges, bridge equipage, demolitions. *TT 1.2: P 1.2: RC 1.2: D 0.2.* Jan. to March 1913 in office of Chf. of Staff, Washington, details and preparation for inaugural ceremonies, March to Sept. 1913 with Engrs., 2d Div., Texas City, Tex., roads, bridges and drainage of divisional camp, design of mobile water-supply unit, in charge topographical reconnaissance of 500 sq. miles. *TT 0.7: P 0.7: RC 0.7: D 0.2.* Oct. 1913 enroute U. S.

to Guam, prepared study on coordinated system of advance guard topographic reconnaissance Nov. 1913 to July 1914 in charge of field party on military survey of Guam, preliminary reconnaissance, triangulation and topography. *TT 0.9: P 0.9: RC 0.8: D 0.2.* Aug. 1914 to Nov. 1915 with 3d Bn. Engrs., Philippine Dept., in charge of topographic school, Topographical Inspector for N. Dist. Mil. Survey, Luzon, triangulation and topography (Dec.-June) for Cayagan Dist., preliminary reconnaissance and triangulation (July-Aug.); Office Dept. Engr. (Sept.-Oct.); triangulation adjustments and preparation of *The Manual for Topographers Philippine Dept.* 1915, returning to U. S. in command five casual companies (one month). *TT 1.4: P 1.4: RC 1.4.* Dec. 1915 to May 1917 Asst. to Dist. Engr., Wheeling, W. Va., in charge field construction, Dam No. 14, Ohio River, and Design Div. of Dist. Office. *TT 1.5: P 1.5: RC 1.1: D 1.2.* June and July 1917 on staff of Commanding Gen., Eastern and Southeastern Depts.; member of Board to select cantonment sites and inspect construction for S. E. Dept.; Aug. 1917 to Feb. 1918 on general staff, 89th Div., Camp Funston, Acting Chf. of Staff and Asst. Chf. of Staff for operations. *TT 0.7: P 0.7: RC 0.5: D 0.1.* March to May 1918 at Army Staff Coll., France. June 1918 to June 1919 with A. E. F. until Sept. 1918 as Asst. Chf. of Staff, for Military Intelligence, 82d Div., including reconnaissance and topography (2 months), and for Operations, 89th Div., including St. Mihiel offensive (2 months); then Chf. of Staff, 89th Div., for Meuse Argonne offensive, occupation of Germany, return to U. S. and demobilisation. *TT 1.5: P 1.5: RC 1.2;* July 1919 in office, Chf. of Engrs., Constr. Div. *TT 0.1: P 0.1: D 0.1.* Aug. 1919 to Aug. 1920 Asst. to Engr., Central Dept., Chicago, Ill., field inspections, in charge of topographic office; Acting Chemical Warfare Officer, Central Dept. *TT 1: P 1: RC 0.4: D 0.3.* Sept. 1920 to April 1921 Asst. Chf. of Staff for War Plans and Training, 6th C. A., Ft. Sheridan, Ill. *TT 0.8: P 0.8: RC 0.8.* June 1921 to June 1923 Asst. Chf. of Staff for Military Intelligence, Philippine Dept., Manila. *TT 2: P 2: RC 2.* Aug. 1923 to date in office, Chf. of Engrs., supervising military surveys and maps; Engr., Reproduction Plant and aerial mapping development, on Federal Board of Surveys and Maps. *TT 1.4: P 1.4: RC 1.4. TT 17.3: SP 2: P 15.3: RC 11.5: D 2.9.* Refers to L. H. Beach, C. B. Birdseye, R. D. Black, W. M. Black, C. E. Boesch, W. Bowie, E. Burr, C. Keller, J. Mills, J. R. Slaterry, H. Taylor.

204 (6) LeGRAND, JAMES, 3401 Forbes St., Pittsburgh, Pa. (Age 38. Born Nieuwvliet, Holland.) 1921 S. B., and 1924 S. M., Mass. Inst. Tech. May 1912-March 1913 Rodman, and April 1913 to July 1914 Instrumentman, made surveys, and designed and built pile trestle, Chicago, Milwaukee & St. Paul Ry. Co. *TT 4.1: SP 4.1: D 0.1.* June 1915 to July 1917 Chf. Draftsman, Real Estate Dept., Chicago Union Station Co., drafting and checking plans. *TT 2.1: SP 2.1.* July 1917 to Sept. 1918 Asst. Engr., C., M. & St. P. Ry. Co., Chicago, Ill., until Nov. 1917 in M. of W. Dept., prepared track layouts and estimates of cost for improvements; then in Valuation Office in charge of pre-inventory data for bridges, culverts, trestles and turntables on Company's System east of Moberg, S. Dak. *TT 1.1: P 1.1: RC 1: D 0.1.* Sept. to Nov. 1918 Div. Engr., Stone & Webster, Inc., in charge of location and construction of underground pipe lines at Grand Rapids Pluric Acid Plant. *TT 0.2: P 0.2: RC 0.2.* Nov. 1918 to Jan. 1919 Instrumentman, Baltimore & Ohio R. R., in charge of construction of about 1½ miles of side track. *TT 0.2: SP 0.2.* Jan. to Oct. 1919 Asst. Engr., Chicago & Alton R. R., Chicago, had charge of preparation of schedules of land and right of way. *TT 0.7: P 0.7: RC 0.7.* June to Sept. 1920 with Illinois Steel Co., Gary, Ind., on tests of all kinds, boilers, open hearth and blast furnaces, gas producers, etc.; designed flywheel, also a piping system for distribution of coke oven gas. *TT 0.3: SP 0.3: D 0.1.* June 1921 to June 1924 post-graduate student, Massachusetts Inst. of Technology. *TT 3: P 3.* June to Sept. 1924 Civ. Engr., Aberthaw Constr. Co., Boston, Mass., in charge of construction of composite cotton mill building at High Shoals, N. C. *TT 0.3: P 0.3: RC 0.3.* Sept. 1924 to date Instructor in Mathematics, Carnegie Inst. of Technology. *TT 0.4: SP 0.4. TT 12.4: SP 7.1: P 5.3: RC 2.2: D 0.3.* Refers to H. K. Barrows, C. B. Breed, E. B. Crane, A. G. Hoyt, C. F. Loweth, R. J. Middleton, E. F. Miller, S. B. Phillips, D. Porter, C. M. Spofford.

205 (10) LILLARD, R STEWART, Box 533, Y. M. C. A., Nashville, Tenn. (Age 32. Born Decatur, Tenn.) 1916 B. S. in C. E., Univ. of Tenn. 1909 to 1915 (nearly 2 years) Chalmers and Rodman, Atchison, Topeka & Santa Fe Ry., etc. *TT 3.1: SP 3.1.* June to Sept. 1916 Instrumentman locating and staking for construction of earth roads in Meigs County, Tenn. *TT 0.2: SP 0.2.* Sept. 1916 to Jan. 1917 Instrumentman, A. T. & S. F. Ry. *TT 0.2: SP 0.2.* Jan. to June 1917 Instructor in Civ. Eng., Missouri School of Mines and Metallurgy, had charge of field problems and class in plane surveying, also class in highway engineering, masonry construction, and assisted in materials testing laboratories. *TT 0.4: P 0.4: RC 0.4.* Sept. 1917 to Sept. 1919 1st Lieut., Engrs., U. S. Army, with 308th Engrs.

in training in France until March 1918; then in charge of field surveys for general intermediate supply depot, at Gievres, France, staking railroad layout and warehouses for construction parties; Engr. Officer at German Officers' Prisoners of War Enclosure at Richelleu, France; Jan. to July 1919 on repair and maintenance of camp and 2 or 3 miles of highway. *TT 1.3: P 1.3: RC 1.3.* Sept. 1919 to date with Tennessee State Highway Dept., as Draftsman in main office (nearly 5 months), Jun. Engr. on field location and working up plans for Federal Air construction (over 7 months), Res. Engr. in charge of construction of Federal Aid highways (nearly 4 years), and Constr. Engr., 2d Div., making bi-monthly inspections of construction work (nearly 5 months). *TT 5.3: SP 0.4: P 4.9: RC 4.5: D 0.4 TT 10.5: SP 3.9: P 6.6: RC 6.2: D 0.4.* Refers to R. H. Baker, C. N. Bass, H. A. Burr, W. W. Carson, J. E. Moreland, C. H. Olmstead, W. H. Willson.

206 (4) MAHON, ALBERT ANTHONY, 3743 Walnut St., Philadelphia, Pa. (Age 29. Born Philadelphia, Pa.) 1924 B. S. in C. E., Univ. of Pa. June 1914 to date (except Sept. 1920 to June 1924 student, Univ. of Pennsylvania) with Union Paving Co., until April 1916 as Stenographer and Cost Clerk in office and field on roadwork; then (2 years) Timekeeper; from April 1918 to April 1919 Foreman on road construction; April 1919 to Sept. 1920 Asst. Supt. on rural highways; three summer vacations Asst. to Supt. on highway project (1921), Supt. in charge of 1½ miles penetration road (1922), and Asst. Supt. on street work (1923); June 1924 to date Civ. Engr., with Company, at present on Absecon Boulevard in Atlantic City, N. J. *TT 9: SP 6.8: P 2.2.* Refers to W. C. Barton, H. C. Berry, W. H. Chorlton, E. T. Granddenard, H. B. Smith.

207 (4) MALKWITZ, HERBERT PAUL, P. O. Box 111, Elizabethtown, Pa. (Age 24. Born Koenigsberg, Germany.) 1923 Diplom. Engr., Univ. of Dresden, Germany. Sept.-Dec. 1919 Draftsman with Kell & Loeser, Leipzig, Germany, on reinforced concrete. *TT 2.3: SP 2.3.* Dec. 1921 to Nov. 1923 Designer with Dyckerhoff & Widmann, A. G. Dresden, reinforced concrete. *TT 2: SP 1: P 1.* March to Sept. 1924 Designer, Elec. Bond & Share Co., New York City, water power plants. *TT 0.5: P 0.5.* Oct. 1924 to date Asst. Res. Engr. with Fuller & McClintock, Cons. Engrs., New York City, supervising sewer and disposal plant construction work at Elizabethtown, Pa. *TT 0.3: P 0.3: RC 0.3.* *TT 5.1: SP 3.3: P 1.8: RC 0.8.* Refers to W. G. Federlein, G. W. Fuller, A. Hazen, G. Lindenthal, H. H. Steinhauser.

208 (14) MARBLE, CECIL B. P. O. Box 306, Webster Groves, Mo. (Age 22. Born Owosso, Mich.) Took course in Surveying and Mapping, International Correspondence School. June 1920 to Jan. 1921 Rodman, Instrumentman, Recorder and Topographer, Michigan State Highway, Lansing. *TT 0.6: SP 0.6.* Sept. to Dec. 1921 student in C. E., Michigan Agricultural Coll. March to Nov. 1922 Draftsman, Michigan State Telephone Co., Lansing, maps, estimates, field work, schematics, Tracer. *TT 0.7: SP 0.7.* April 1923 to Jan. 1925 Draftsman and Computer, Kentucky State Highway Dept., Frankfort, Ky., Tracer, Checker, estimates, quantities, laying grade, pipe estimates and right of way. *TT 1.8: SP 1: P 0.8.* Jan. 1925 to date Highway Draftsman and Computer, Missouri State Highway Dept., Webster Groves, Mo., Checker, estimates, laying grades and figuring quantities. *TT 0.1: SP 0.1.* *TT 3.2: SP 2.4: P 0.8.* Refers to C. R. Bloxton, J. T. Madison, B. H. Piepmeyer, G. A. Ridgeway, E. N. Todd.

209 (11) MARSH, JESSE OGDEN, Room 23, City Hall, Los Angeles, Cal. (Age 59. Born Minneapolis, Minn.) Sept. 1901 to June 1903 Engr. in Chg., San Pedro, Los Angeles, and Salt Lake Ry., on location from Los Angeles to Riverside (under Chf. Engr.), then transferred to Los Angeles Office as Chf. Draftsman. *TT 1.7: P 1.7: RC 1.7.* June 1903 to April 1904 in private practice on subdivision and street work; also with E. T. Wright, C. E., in charge of his office when absent from city. *TT 0.8: P 0.8: RC 0.8.* Sept. 1905 to Sept. 1911 Chf. Engr., Huntington Land Co. (under Gen. Mgr.), development of high-class suburban property, draw specifications, made contracts, managed the work and planned the subdivision. *TT 6: P 6: RC 6.* Sept. 1911 to Sept. 1912 member of firm, Montgomery and Marsh, contracting for street work. Nov. 1914 to June 1916 Res. Engr., California Highway Comm., part of time in office on design for various street and plant appliances (under Div. Engr.). *TT 1.7: P 1.7: RC 1.7: D 7.* June 1916 to Jan. 1917 Engr. in charge, relocation of San Joaquin & Eastern Ry. from Aubury to Shavers Lake for Pacific Light & Power Co. (merged with Southern California Edison Co.) (directly under Hydr. Engr.). *TT 0.6: P 0.6: RC 0.6.* March 1917 to May 1919 Asst. Engr., Valuation Dept., Los Angeles and Salt Lake Ry. *TT 2.2: P 2.2.* May 1919 to Nov. 1924 Office Engr., California Highway Comm. *TT 5.5: P 5.5: RC 5.5: D 2.7.* Nov. 1924 to date Chf. Engr., Board of Public Utilities, City of Los Angeles. *TT 0.2: P 0.2: RC 0.2.* *TT 18.8: P 18.8: RC 16.6: D 3.5.* Refers to T. D. Allin, S. V. Cortelyou, F. G. Dessery, H. Hawgood, F. H. Olmsted, A. L. Sonderegger, C. R. Sumner.

210 (1) MATTHEWS, HARRY GEORGE, 309 Stevens St., West Hoboken, N. J. (Age 23. Born West Hoboken, N. J.) 1918 to 1920 Draftsman, Shevlin Eng. Co., on design of smoke flues and other types of plate construction. *TT 2: SP 2.* 1920 to date Structural Draftsman on design of concrete and steel, Henry R. Kent & Co. *TT 5: SP 3: P 2: D 2.* *TT 7: SP 5: P 2: D 2.* Refers to J. R. Alkenhead, H. C. Keith, B. H. Smith, J. Strachan, L. W. Tucker.

211 (1) PAYNE, HAROLD B. Box 110, Mamaroneck, N. Y. (Age 33. Born Moffit, Okla.) 1914 B. C. E., Univ. of Ark. June 1914 to Jan. 1915 Supt., Williams Bros. Constr. Co., on construction of railroad concrete culverts; Field Engr., checking yardage of excavation and fills, and yardage of concrete work placed, etc. *TT 2.6: RC 0.6.* Jan. to July 1915 County Surveyor, Sequoyah County, Okla., establishing section lines and laying out subdivisions of sections. *TT 0.6: RC 0.6.* Sept. 1915 to Sept. 1916 Inspector, St. Louis & San Francisco R. R., inspection of concrete for M. of W. Dept., bridge piers, culverts, retaining walls, etc.; Transitman, track layouts, curves, switches, turnouts, pile cutoffs, earthwork computation, etc. *TT 1: RC 1.* Oct. 1916 to March 1917 Computer, Interstate Commerce Comm., checking material on concrete work, and railroad track equipment. *TT 0.5: D 0.5.* April to Aug. 1917 Draftsman, Horton Constr. Co., detailing reinforcing steel in 5-span concrete highway bridge; designed forms for arches and superstructure. *TT 0.3: D 0.3.* Aug. 1917 to Oct. 1919 1st Lieut., 110th Engrs., 35th Div., U. S. Army, 10 months in training camp at Donopban, Okla., 1½ years active service in France, Oise-Aisne, St. Mihiel, and Meuse-Argonne engagements. *TT 2.3: RC 2.3.* Oct. 1919 to July 1920 Draftsman, Lockwood Greene & Co., on layouts for textile mill buildings of concrete flat slab type. *TT 0.8: D 0.8.* Sept. 1920 to April 1921 Structural Steel Draftsman, Dept. of Plant and Structures, New York City, designing steel and reinforced concrete for Bronx Terminal Market and Housing Stations. *TT 0.7: D 0.7.* Sept. 1921 to Jan. 1923 in private practice as Estimator and Designer, New York City; designed and estimated quantities for fireproof floors, supervised installation of floors (2-way reinforced clay tile arches). *TT 1.3: RC 1.3.* Feb. to June 1923 Designer of reinforced concrete for substations and yard substructures for hydro-electric equipment, Dwight P. Robinson Co. *TT 0.3: D 0.3.* June 1923 to Oct. 1924 Designer, Elec. Bond & Share Co., on similar work, also making plans, for hydro-electric layouts. *TT 1.3: RC 1.3.* *TT 11.6: RC 7.1: D 2.6.* Refers to L. R. Cobb, I. Delson, J. O. Eckersley, H. Miller, E. N. Peterson.

212 (15) PAYNE, JOHN BAYLY, Jr., 3839 Maplewood, Dallas, Tex. (Age 26. Born Ft. Worth, Tex.) 1921 B. Sc., Va. Mil. Inst. March 1922 to date Draftsman, Texas & Pacific Ry. Co., Dallas, Tex. *TT 4.8: RC 0.3.* Refers to J. A. Anderson, R. L. Holmes, C. P. Howes, H. G. Lytle, F. R. Naylor.

213 (13) POTTS, C HARRIS, 1000 Hyde St., San Francisco, Cal. (Age 30. Born Chicago, Ill.) Sept. 1913 to Oct. 1916 and July 1917 apprenticeship in Eng. Dept., American Bridge Co., Pencoed (Pa.) Plant, acting as Tracer, Draftsman and Detailer. *TT 3.1: SP 3.1.* 1913 to 1915 also attended evening school in Structural Eng., Drexel Inst. Oct. 1916-June 1917 Tracer and Detailer on Pennsylvania Hotel for Post & McCord, New York City. *TT 0.7: SP 0.7.* July 1917 to Nov. 1920 Private, Co. A, 58th Inf., and 2d Lieut., M. G. Co. 59th Inf., being Machine Gunner, 4th Div., topography, mapping, machine gun mathematics, etc. *TT 3.3: SP 0.3: P 3: RC 2.3.* March to Nov. 1923 with U. S. Steel Products Co., San Francisco, Cal., as Asst. Supt., Timekeeper and Paymaster on erection of steel State Office Bldg., and State Library and Courts Bldg., Sacramento, Cal. *TT 0.7: P 0.7: RC 0.7.* Nov. 1920 to March 1923 and Nov. 1923 to date with Christopher H. Snyder, Civ. Engr., San Francisco, as Tracer, checking, approval of shop details. *TT 3.5: SP 1.9: P 1.6.* *TT 12.3: SP 7: P 5.3: RC 3.* Refers to W. H. Alderson, C. N. Bley, F. W. Flittner, F. F. Hall, E. J. Schneider, C. H. Snyder.

214 (10) PRIDGEN, JOHN BAILEY, Box 1341, Charlotte, N. C. (Age 28. Born Baltimore, Md.) 1916 B. E. in Civ. Eng., and 1921 C. E., N. C. State Coll. of Agri. and Eng. Sept. 1914 to June 1916 Engr. with Riddick & Mann, West Raleigh, N. C.; Rodman and Instrumentman. *TT 2: SP 2.* June 1916 to June 1918 Rodman, Leveler, Draftsman, Transitman and Asst. Engr., Atlantic Coast Line R. R. Co., Locating and Valuation Depts., Wilmington, N. C. *TT 2: SP 1.5: P 0.5.* June 1918 to June 1919 with Meteorological Sec., Signal Corps, U. S. Army. June 1919 to date with North Carolina State Highway Comm., until Sept. 1920 as Res. Engr. at Durham, N. C., in charge of concrete, asphalt and top soil road construction (50 miles) and road location (68 miles); Sept. 1920 to May 1921 Engr. of Constr., Second Div. (32 Counties), Greensboro, N. C., in charge of road construction in the Division; since May 1921 Dist. Engr., 6th Dist. (13 counties), Charlotte, N. C., in direct charge of

location, construction (\$12 000 000) and maintenance (\$400 000 annually) of 800 miles of state roads. *TT 5.7: P 5.7: RC 5.7: D 3.7: TT 9.7: SP 3.5: P 6.2: RC 5.7: D 3.7.* Refers to J. L. Beeton, O. B. Bestor, R. P. Coble, C. N. Conner, W. S. Fallis, H. V. Joslin, D. L. Struthers, G. F. Syme, H. Tucker, C. M. Upham, J. D. Waldrop.

215 (14) ROBERTSON, GUY ALLAN, 1117 So. 32d St., Omaha, Nebr. (Age 35. Born Omaha, Nebr.) 1911 B. Sc. in C. E. Univ. of Nebr. June 1911 to June 1919 with Omaha (Nebr.) Steel Works as follows: June to Sept. 1911 Marker of structural steel, laying out steel for buildings and bridges; Sept. 1911 to Jan. 1915 Detailer of structural steel, Shop Inspector, checking finished steel; Jan. 1915 to Jan. 1916 checking details of structural steel; Jan. 1916 to June 1917 structural steel designing and machine designing; June 1917 to June 1919 Field Engr. on erection of coal tippie and setting of machine parts; also directing fabrication of ship plates. *TT 10: SP 6.5: P 3.5: RC 2: D 1.5.* June 1919 to date in private practice of engineering, design of steel for building and bridges, shop inspection of structural steel, design of concrete box culverts and dams, quantity estimates for contractors. *TT 5.5: P 5.5: TT 15.5: SP 6.5: P 9: RC 2: D 1.5.* Refers to J. N. Ball, J. B. Bertrand, G. P. Dorsey, F. W. P. Rice, J. R. Rippey, K. E. Vogel.

216 (1) RODIO, GIOVANNI, Corso Venezia 14, Milano (3), Italy. (Age 37. Born Brindisi, Italy.) 1910 C. E., Zurich Polytechnic, Switzerland. June to Oct. 1908 with Locher & Co., Contrs., Zurich, and June to Oct. 1909 with Maillart & Co., Contrs., Geneva, Switzerland, on design and office work. *TT 2: SP 2.* June 1910 to Dec. 1911 Designing Engr. and Asst. Engr. of construction on high electric work with the company in charge of high-power electric installation of Brusio, Switzerland. *TT 1.5: RC 1: D 0.2.* Jan. 1912 to May 1914 Engr. in charge of hydro-electrical projects in Switzerland and hydro-electrical construction in Spain for Locher & Co. *TT 2.3: RC 1.5: D 1.* June 1914 to June 1916 Engr. in charge of hydro-electrical projects with Prof. G. Narutowicz of Polytechnic of Zurich, in charge of studies of developments in Portugal and Spain. *TT 2: RC 2.* July 1916 to Sept. 1918 Lieut. of Engrs. in charge of Eng. Co. of Cagliari, also of camp construction of Golfo Aranci, Sardinien. *TT 2: RC 2.* Oct. to Dec. 1918 travelling in Switzerland, France, Spain and Belgium. Jan. 1919 to date in private practice as Cons. Engr. at Milan, especially on hydro-electric projects and investigations; also associated as Director in hydro-electric construction with firm of Ing. Giovanni Rodio & Co., Contrs., principal works constructed by firm include hydro-electric plant (5 000 h.p.) for Companhia Hydro-electrica do Varosa-Porto, Portugal, construction of dam (26 m. high, 70 m. long) for electrification of Italian State Rys., two free water tunnels, repairing of two masonry dams, construction of high-pressure water tunnel; and at present on project and construction of masonry gravity dam (62 m.) for Italian State Ry. at Bardonecchia. *TT 6: RC 6. TT 16.2: RC 12.3: D 1.2.* Refers to L. G. Culleton, K. E. Hilgard, L. Luiggi, F. A. Noetzel. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.

217 (1) ROHDENBURG, WALTER CARL, Box 25, Haworth, N. J. (Age 39. Born New York City.) 1902 to 1910 Supt. and Estimator. The Jones Constr. Co., Inc. *TT 7.7: SP 3.4: P 4.3: RC 3.* 1910 to 1913 Vice-Pres. and Secy., F. D. Gheen & Co., Inc., Bldrs. *TT 3.5: P 3.5: RC 3.5.* 1914 to 1918 Pres., The Rohdenburg Co., Inc., Bldrs. *TT 4: P 4: RC 4: D 4.* 1918 Inspector, Quartermaster Corps, Brooklyn Army Supply Base, building B. E. *TT 0.5: P 0.5.* Jan. 1919 to Dec. 1920 Supt. and Estimator, Eastern Constr. Co., Inc., Contrs., New York City. *TT 2: P 2: RC 2.* Jan. 1921-Sept. 1922 and Aug. 1923 to date with Murrie & Co., Inc., Engrs., New York City, in charge of Structures Div., valuation. *TT 2.1: P 2.1: RC 1.8. TT 19.8: SP 3.4: P 16.4: RC 14.3: D 4.* Refers to E. E. Baptiste, G. B. Cornell, L. D. Norworthy, W. K. Peasley, T. K. Thomson.

218 (4) RUBERT, JOHN LOUIS, 4824 Sydenham St., Philadelphia, Pa. (Age 41. Born Philadelphia, Pa.) 1902 graduated from Drexel Inst., Philadelphia, Pa. July 1906 to date with Wm. H. Boardman, Civ., Hydr. and San. Engr., Philadelphia, Pa., in field and office as Rodman, Draftsman, Instrumentman, Inspector, Specification Writer, Designer, Appraiser, Asst. Engr., etc., up to Prin. Asst. Engr., on reports, design, construction and valuation of water-power developments, water-supply, purification and distribution works, sewerage systems and sewage-disposal works; designing and installation on artesian wells, intakes, screen chambers, submerged pipe-lines, steam-electric and oil pumping plants, aerators, coagulating basins, chlorinating plants, gravity and pressure filters, dams, water-towers and standpipes, pump wells and pits, reinforced concrete and earth reservoirs, storm and sanitary sewer pipe-lines, sewage pumping stations, siphons, sedimentation and Imhoff tanks, contact beds, sand filters, sludge beds and disinfecting apparatus, gas distributing

systems, producer and water gas generating stations in various cities (names given in application) in Delaware, Maryland, New Jersey, Pennsylvania, South Carolina and Virginia; has also done drafting and designing in connection with street layouts, railroad grade separation, etc. TT 18.5: SP 4.5: P 14: RC 6: D 7. Refers to H. N. Benkert, A. S. Craven, W. H. Gibson, H. M. Herbert, W. H. Pahl, H. J. Sherman, B. A. Sleeper.

219 (15) RUDOLPH, PAUL JACKSON, Box 1622, Univ. Station, Austin, Tex. (Age 26. Born Illinois Bend, Tex.) 1923 B. S. in C. E., Univ. of Tex. June to Sept. 1922 Chairman, rodding, etc., with some transit and level work on canal location, Wichita County Water Improvement Dist. No. 1, Wichita Falls, Tex. TT 2: SP 2. June 1923 to Sept. 1924 with same District as Levelman and Transitman on canal location, Instrumentman on canal construction and Concrete Inspector; about 1½ months in charge of canal location. TT 1.3: SP 1.2: P 0.1. Sept. 1924 to date Instructor in Civ. Eng., Univ. of Texas. TT 0.3: P 0.3. TT 3.6: SP 3.2: P 0.4. Refers to E. C. H. Bantel, J. L. Locheridge, R. Pace, T. U. Taylor, R. A. Thompson, P. A. Welty.

220 (9) SCHAEFFER, JOHN FLOYD, 1695 E. 85th St., Cleveland, Ohio. (Age 37. Born Lexington, Ohio.) A. B., Ohio State Univ. 3 years student, Min. Eng. Coll., same University. Nov. 1912-Jan. 1913 Draftsman, Tracer, detailing, checking, etc., sewerage works, Feb. 1913-Aug. 1914 Asst. Engr. in charge of Materials Testing Laboratory, and Sept. 1914-Feb. 1917 Asst. Engr. on design of disposal works, reinforced concrete, estimating and hydraulic design, all for Passaic Valley Sewerage Commrs. TT 5.3: SP 2.3: P 3: RC 1.6: D 1.4. March to June 1917 Asst. Engr., subdivision of sewage disposal, City of Cleveland, design of sewage works, reinforced concrete, hydraulics. TT 0.3: P 0.3: D 0.3. June to Sept. 1917 Asst. Engr., U. S. War Dept., under R. Winthrop Pratt, Cons. Engr., in charge of engineering work of sewerage construction at Camp Sherman, Ohio. TT 0.3: P 0.3: RC 0.3. Sept. 1917 to Aug. 1918 with R. Winthrop Pratt, nearly 8 months as Res. Engr. in charge sewerage construction in tunnel, etc., at Cuyahoga Falls, Ohio, and nearly 4 months Asst. Engr. in charge of filter plant and sewage disposal operation at Alliance, and sewage-disposal operation at Canton, Ohio. TT 0.9: P 0.9: RC 0.9. Aug. 1918 to Sept. 1919 Second Lieut., U. S. Army, over 1 month with Engr. Sec., San. Corps, in training camp, Ft. Ogelthorpe, Ga., and nearly 1 year in command of sanitary detachment, A. E. F., on construction and operation of delousing and bathing plants, Brest, France. TT 1: SP 0.1: P 0.9: RC 0.9. Sept. 1919-March 1920 with R. Winthrop Pratt, 4 months as Res. Engr. on construction of dam, railroad siding and coal bunkers, Alliance, Ohio, and over 2 months Asst. Engr. on complete design of sewerage system for 200-acre tract, Rocky River, Ohio. TT 0.5: P 0.5: RC 0.3: D 0.2. April-Dec. 1920 Sr. Asst. Engr., Pittsburgh office, Morris Knowles, Inc., writing preliminary reports, disposal of sewage for Ashtabula, Ohio; compiled data for water supply court case, Pennsylvania R. R. vs. certain coal companies of Indian Creek Valley. TT 0.7: P 0.7: RC 0.7. Jan.-March 1921 Asst. to Supt., Ferro Constr. Co., on bridge repair for Big Four R. R., Cleveland. TT 0.2: SP 0.2. April 1921 to date with Div. of Water, Dept. of Public Utilities, Cleveland, 1 year as Asst. Engr. on reinforced concrete design, hydraulic computations and design, 9 months Sr. Asst. Engr. writing specifications for contracts in connection with Baldwin-Fairmount Project; since Jan. 1923 Res. Engr. in charge of construction of Contracts 18, 41, 42 and 43 inlet and outlet works, including tunnels, pipe-lines and control works connected with Baldwin-Fairmount Project; Contract 33-A (48-in. high pressure steel main), under construction. TT 3.9: P 3.9: RC 2.9: D 1. TT 13.1: SP 2.6: P 10.5: RC 7.6: D 2.9. Refers to L. H. Corning, G. W. Hamlin, M. Knowles, A. G. Levy, D. Lowensohn, R. F. MacDowell, A. V. Ruggles, W. G. Taylor.

221 (3) SCHAMBERGER, SANFORD OATMAN, 307 Campbell Ave., Schenectady, N. Y. (Age 27. Born Gloversville, N. Y.) 1919 B. S. in E. E., Union Coll. June 1919 to Sept. 1921 in Test Dept., Gen. Elec. Co., at Schenectady and Pittsfield Works, testing and proving electrical apparatus. TT 4.3: SP 3.3: P 1: RC 1. Sept. 1921 to July 1922 Asst. in appraisal of public utility corporation property under E. J. Cheney. TT 0.8: SP 0.8. July 1922 to date Engr., Hydr. Dept., Adirondack Power & Light Corporation, Schenectady, on investigation of hydro-electric properties. TT 2.5: P 2.5: RC 1. TT 7.6: SP 4.1: P 3.5: RC 2. Refers to E. D. Bean, A. W. Harrington, E. H. Sargent, W. C. Taylor, L. A. Whitist.

222 (2) SCOTT, WARREN JOSEPH, 4 Vine St., Hartford, Conn. (Age 28. Born Cambridge, Mass.) 1918 S. B. in San. Eng., Mass. Inst. Tech., also Harvard Univ. Summers 1916 and 1917 Rodman and Draftsman, Bay State St. Ry. Co., Boston, Mass. June-July 1918, Jan.-Dec. 1919, and Jan. 1921-Aug. 1922 Asst. San. Engr., Massachusetts State Dept. of Health, Boston, engineering investigations on water supply and sewage disposal. TT 4.8: SP 3.1: P 1.7. Aug.-Dec. 1918 Chf. Machinist's Mate, U. S. Naval Reserve Force, Public

Works Dept., Navy Yard, Charlestown, Mass., surveying, taking of soundings and inspection work. *TT 0.3: SP 0.3.* 1920 Field Engr., Wallace & Tiernan Co., Newark, N. J., installation and supervision, water chlorination plants. *TT 1: P 1.* Sept. 1922 to Aug. 1923 San. Engr., Extension Div., Univ. of Iowa, in charge of sanitary surveys of municipalities, including engineering investigations of public water supplies and sewerage systems; Aug. 1923 appointed Asst. Prof. of Public Health. *TT 1: P 1: RC 1.* Sept. 1923 to date with Bureau of San. Eng., Connecticut State Dept. of Health, Hartford, Conn., as Asst. Engr. and Prin. Asst. Engr. in charge of supervision of public water supplies in the state; at present Acting Director in charge of supervision of all water supply and sewerage systems and approval of plans for new construction. *TT 1.4: P 1.4: RC 1.4. TT 8.5: SP 3.4: P 5.1: RC 2.4.* Refers to X. H. Goodnough, J. F. Jackson, S. Pincus, D. Porter, C. M. Spofford, E. L. Waterman, A. D. Weston.

223 (13) SMITH, HARVEY ALBERT, 1032 Neilson St., Berkeley, Cal. (Age 34. Born Sacramento, Cal.) 4 years special student, Univ. of California, Coll. of Civ. Eng. June 1917 to Aug. 1918 Jun. Structural Draftsman, California State Dept. of Eng., drafting and tracing on state institution buildings; some design. *TT 2.5: SP 2.3: P 0.2: D 0.2.* Aug. to Nov. 1918 drafting and designing, Foundation Co., also design and drawing on various concrete structures for toluol plant at Point Richmond, Cal. *TT 0.3: P 0.3: D 0.3.* Nov. 1918 to Oct. 1919 Chf. Draftsman, Parr Terminal Co., direct charge of design and drafting of wood and reinforced concrete transit shed and warehouses, also pier construction. *TT 0.9: P 0.9: RC 0.9: D 0.9.* Oct. 1919 to Aug. 1920 drafting and designing for W. H. Ellison, Structural Engr., reinforced concrete wood and steel commercial buildings. *TT 0.9: P 0.9: RC 0.9: D 0.9.* Aug. 1920 to July 1921 Checker, Pacific Fruit Express, checking steel stressers and reinforced concrete ice manufacturing and storage structures. *TT 0.9: P 0.9: RC 0.9: D 0.9.* July 1921 to May 1922 Structural Designer, United Comstock Mines Co., design of reinforced concrete and steel structure for Cyanide Plant (cost over \$1 500 000). *TT 0.9: P 0.9: RC 0.9: D 0.9.* May 1922 to date Structural Designer, Ellison and Russell, Structural Engrs., design of reinforced concrete and steel schools and commercial buildings (one structure cost \$1 500 000, several over \$500 000). *TT 2.6: P 2.6: RC 2.6: D 2.6. TT 9: SP 2.3: P 6.7: RC 6.2: D 6.7.* Refers to W. N. Ball, W. H. Ellison, M. M. Falk, A. P. Fisher, I. Gotthelm, C. H. Kromer, E. Russell, F. H. Spitzer.

224 (1) SPOONER, RAY NEWHALL, Pier 11, North River, New York City. (Age 32. Born Jersey City, N. J.) Licensed Prof. Eng., Univ. of State of New York, also State of New Jersey. 1911 to 1913 student, Civ. Eng. course, School of Mines, Eng. and Chemistry, Columbia Univ. *TT 0.7: SP 0.7.* April 1913 to Jan. 1915 with Pennsylvania R. R., Eng. Corps, as Rodman, Constr. Dept., surveys and inspection of docks, reinforced concrete grain elevator, Philadelphia, bridge across Delaware River, Trenton, N. J. *TT 1.7: SP 1.7.* Jan. 1915 to date Constr. Engr. and Secy., Allen N. Spooner & Son, Inc., New York City, on hydrographic survey and assisted in design laying twin 36-in. water mains under Passaic River, Jersey City (Jan. to May 1915); Asst. in design and Res. Engr. in charge of construction of new ferry terminal, Interborough 23d St. Ferry Co., Brooklyn (May to Nov. 1916); Div. Engr. in charge of construction of new cantilever hoist ferry bridges for New York & East River Ferry Co., Astoria, Long Island City (Nov. 1916 to Jan. 1917); designed and in charge of driving sheathing to protect crib for dredging below crib bulkhead, National Sugar Refinery, Long Island City (Jan. 1916 to Jan. 1917); designed and in charge of building fender protection to bridge of L. I. R. R. over Douglaston Creek (April to June 1923); also Engr. in charge on various pier construction and repairs, including dredging, sheathing, bulkheads, and similar work; work included building new pier, American Can Co., Edgewater, N. J. (Feb. to May 1916); surveying, design and construction of 575-ft. pier platform, building and tank foundations, bulkheads, coal trestle and pockets, Oakes Mfg. Co., Steinway, N. Y. (Sept. 1915 to Jan. 1917); design and construction of Albany Day Line rack for Pennsylvania R. R., Desbrosses St., New York City (Aug. 1917 to July 1918); dredging, surveying and reconstruction of bulkhead platforms for handling freight with tractor and trallers and erecting new slide doors, N. S. Pier 26 to N. S. Pier 29, and similar work at Piers 4 and 5, North River (Aug. 1917 to June 1919); construction of three new piers, Verdon Shipyards, West New Brighton, Staten Island (Sept. 1918 to April 1919); redesigning ferry racks and extending south rack foot of Desbrosses St., N. R., for P. R. R. (Aug. 1920 to Jan. 1922); construction of two concrete deck piers (100 by 650 ft. and 100 by 823 ft.), Wm. Beard Estate, Erie Basin, Brooklyn (March to Dec. 1921); for P. R. R., at Greenville Freight Yard, reconstructing coal trestle, pockets and pier, rebuilt 1 000-ft. crib bulkhead, and 1 000-ft. pile platform, known as mooring rack, repaired 10-car float berthing racks (Oct. 1921 to Dec. 1924); repairing Piers 27-29 N. R., fender system.

rebuilding bulkhead, sheathing piers, etc. (Aug. 1923 to Jan. 1925); redesigning and rebuilding 350-ft. crib to replace old crib structure at Dutchkills for L. I. R. R. (Dec. 1923 to April 1924); design and construction of pier (Yellow Pine Dock) for L. I. R. R., Long Island City (April to May 1924); removal cover plates from nozzles in main channel, Upper New York Bay, for Passaic Valley Sewerage Comm. (May to July 1924); landings in North River for Albany Day Line (May to Nov. 1924); rebuilding bulkhead, etc., for New York Yacht Club, Glen Cove Landing (June to Sept. 1924); construction of tower foundations of reinforced concrete on piles, crib and fender racks, for two new steel transfer bridges, foot of 5th St., Long Island City for L. I. C. C. (July 1924 to Jan. 1925) and of construction of fender protection racks for either abutment, Vernon Ave. Bridge across Newtown Creek for Dept. of Plant and Structures, New York City (Sept. to Dec. 1924) (other work given in application). *TT 10: SP 0.4: P 9.6: RC 7.6: D 2. TT 12.4: SP 2.3: P 9.6: RC 7.6: D 2.* Refers to F. R. W. Cleverdon, F. D. Davis, T. F. Keller, L. V. Morris, J. B. Rohrer A. N. Spooner, C. W. Staniford.

225 (12) STEGNER, JOSEPH CONRAD, Newport, Wash. (Age 42. Born Fulda, Minn.) Prior to Nov. 1906 Rodman, Chainman, etc., with various parties. *TT 0.5: SP 0.5.* Nov. 1906 to Sept. 1908 and Dec. 1908 to June 1909 Instrumentman, Sept. to Dec. 1908 and June 1909 to Dec. 1912 Asst. Engr., maintenance of way, Idaho Div., and Dec. 1912 to May 1913 Res. Engr., Spokane Grade Separation, Northern Pacific Ry. *TT 6.4: SP 2.3: P 4.1: RC 4.1.* May 1913 to Feb. 1914 Res. Engr., Western Dakota Ry., on construction (11 miles) in North Dakota. *TT 0.8: P 0.8: RC 0.8.* Jan. 1916 to Jan. 1919 Deputy County Engr. in field and office, and Jan. 1919 to Jan. 1921 County Engr., Pend Oreille County, Wash. *TT 5: P 5: RC 5: D 1.* Jan. 1921 to Jan. 1923 private work, irrigation, logging, etc. *TT 2: P 2: RC 2: D 0.5.* Jan. 1923 to date County Engr. of Pend Oreille County; 6 months each year also State Watermaster of this county; Jan. 1924 to date also City Engr. of Newport, Wash. *TT 2: P 2: RC 2: D 1. TT 16.7: SP 2.8: P 13.9: D 2.5.* Refers to A. D. Butler, C. E. Davis, H. J. Doolittle, B. J. Garnett, J. D. Koren H. A. Sewell, P. E. Thian.

226 (6) THORNBURGH, CHARLES GARLAND, 34 Terrace Rd., Rosslyn Farms, Carnegie, Pa. (Age 35. Born Nashville, Tenn.) 1909 C. E., Lehigh Univ. Aug. to Nov. 1909 Rodman, Tennessee Coal & Iron Co. *TT 2.3: SP 2.3.* Nov. 1909 to Sept. 1911 Asst. on Engr. Corps, Instrumentman, Rodman, surveys, plans, estimates, etc., Pennsylvania R. R. *TT 1.8: SP 1.8.* Sept. 1911 to March 1912 Chf. of Party, Dept. of Public Works, Santo Domingo, highway location and construction, bridge construction. *TT 0.5: P 0.5.* March to Sept. 1912 Civ. Engr., Central Ansonia Sugar Co., Azua, Dominican Republic, topographical and irrigation surveys, railroad location. *TT 0.5: P 0.5.* Sept. 1912 to Feb. 1913 Instrumentman, P. R. R. *TT 0.4: P 0.4.* Feb. 1913 to June 1914 and Sept. 1914 to March 1915 Designing Draftsman, Dept. of Public Works, Philadelphia Pa., first on reinforced concrete and structural steel bridge design, later on sewage-disposal plant design and estimates. *TT 1.8: P 1.8.* March 1915 to May 1916 Asst. Engr. of construction, Bureau of Water, Philadelphia, in charge of construction of sedimentation basin mixing chambers, inlet and outlet houses, Torresdale Plant. *TT 1.2: P 1.2: RC 1.2.* May 1916 to June 1918 Res. Engr., Frank C. Roberts & Co., in charge of construction of ore dock, dock walls, stocking trestles, railroad yard, sewer construction, etc. *TT 2.1: P 2.1: RC 2.1.* June to Oct. 1918 Designing Engr. with Monks & Johnson, designing structural steel and reinforced concrete buildings and structures for shipyards. *TT 0.3: P 0.3.* Oct. 1918 to Jan. 1925 with The Koppers Co., until June 1924 as Civ. Engr. in charge of design of reinforced concrete, of heavy foundations, sewers, water lines for by-product coke plants, and since then Asst. Dept. Head, Bldg. Dept., in charge of department designing buildings, sewers, water-pumping stations, distribution lines, power houses, railroad tracks and plant arrangements, by-product coke plants. *TT 6.4: P 6.4: RC 6.4.* At present Chf. Engr., The Rust Eng. Co., designing, estimating and constructing industrial buildings, power houses, reinforced concrete structures and general contracting. *TT 17.3: SP 4.1: P 13.2: RC 9.7.* Refers to R. J. Fogg, F. P. McKibben, M. Merriman, T. Merriman, H. H. Quimby, W. L. Stevenson.

227 (14) TIMANUS, CLARENCE SYDNEY, 402 Interstate Bldg., Kansas City, Mo. (Age 32. Born Kansas City, Mo.) 1918 S. B. in Civ. Eng., Mass. Inst. Tech. and Harvard Univ. Dec. 1918 to date with Burns & McDonnell Eng. Co., Kansas City, Mo., as Draftsman, Chf. Draftsman, Office Engr., Associate Engr. on municipal improvement projects, including appraisals, field and office work on storm and sanitary sewers with design of seven sewage-disposal plants and five small sewage pumping stations, electric light and power, field work, reports and design of water-works improvements, with wells, pipe-lines, distribution systems,

twelve pump stations, nine reservoirs, ten purification plants (35 000 000 gal. per day). **TT 8.1: SP 3.5: P 4.6: RC 4.3: D 3.4.** Refers to E. W. Bacharach, J. E. Byers, M. P. Hatcher, A. H. Kindrick, R. E. McDonnell, L. B. Reynolds, C. A. Smith.

228 (7) TINEY, BROWN CHARLES, 900 South Pennsylvania Ave., Lansing, Mich. (Age 38. Born Millbrook, Mich.) 1907 B. S., and 1910 B. C. E., Valparaiso Univ. Sept. 1910 to May 1911 Instrumentman, Draftsman and Chf. of field party with Melton & Cutler, Civ. Engrs., Gary, Ind., platting subdivisions, sewer and sidewalk work. **TT 2.7: SP 2.7.** May 1911 to Sept. 1915 Asst. to County Engr., at Toledo, Lucas County, Ohio, on highway surveys, plans, construction, maintenance and laboratory tests of materials; during 1915 season Deputy in charge of all road work. **TT 4.3: P 4.3: RC 0.5: D 2.** Sept. to Nov. 1915 Asst. to Chf. Engr. for Board of Parks and Boulevards, Toledo, in charge of field party on boulevard construction. **TT 0.1: P 0.1.** Nov. 1915 to Oct. 1919 (except Jan. to March 1917 in charge of field party on surveys for Joseph Hofman, Civ. Engr., Toledo) Asst. to County Engr. of Monroe County, Mich., in responsible charge of highway surveys, plans and construction (\$1 700 000 worth of road construction completed). **TT 3.9: P 3.9: RC 3.9: D 1.** Oct. 1919 to Jan. 1922 County Highway Engr., Monroe County Road Comm., Monroe, Mich., in charge of county road construction and maintenance and of state road maintenance in the county. **TT 2.3: P 2.3: RC 2.3.** Feb. 1922 to date with Michigan State Highway Dept., Lansing, Mich., until Sept. 1923 as Asst. Maintenance Engr., general supervision of maintenance and construction of bituminous roads; then Chf. Inspecting Engr., in general charge of inspection of state road construction, including Federal Aid construction, and since Jan. 1924 Maintenance Engr. in charge of State Trunk Line and Federal Aid road maintenance. **TT 2.9: P 2.9: RC 2.9. TT 16.2: SP 2.7: P 13.5: RC 9.6: D 3.** Refers to J. H. Bateman, A. H. Blanchard, W. F. Brooks, G. C. Dillman, W. J. Kingscott, G. E. Martin, H. C. Smith.

229 (7) TRAMP, GEORGE DEWEY, Care, State Highway Dept., Lansing, Mich. (Age 26. Born Buffalo, N. Y.) Sept. 1919 to Aug. 1921 student, Eng. Coll., Univ. of Michigan. Jan. to Feb. 1923 and Jan. to Feb. 1924 student, same University, graduate course in Highway Eng. **TT 0.9: SP 0.7: P 0.2.** June to Sept. 1920 Rodman, Aug. 1921 to May 1923 Instrumentman, Draftsman and Inspector, May to Dec. 1923 Res. Engr., and April 1924 to date Project Engr., on construction, Michigan State Highway Dept. **TT 3.6: SP 2.1: P 1.5: RC 0.9. TT 4.5: SP 2.8: P 1.7: RC 0.9.** Refers to J. H. Bateman, A. H. Blanchard, W. J. Kingscott, L. P. Scott, R. S. Swinton.

230 (1) VANDERHORST, PAUL MARIE, 577 Madison Ave., Elizabeth, N. J. (Age 24. Born Batavia, Java.) 1923 C. E., Univ. of Delft, Holland. 1920 to 1923 Asst. Engr., Holland R.Rs., Inspector, statical computations. **TT 3: SP 2.5: P 0.5.** Sept. 1923 to June 1924 with Frank B. Gilbreth, Cons. Engr., industrial engineering, layouts, etc., for Barber Asphalt Co. **TT 0.8: P 0.8.** June 1924 to date in Eng. Dept., New York Telephone Co., exchange switchboard additions. **TT 0.7: P 0.7. TT 4.5: SP 2.5: P 2.** Refers to R. V. Banta, M. S. Darrow, C. M. Forrest, G. L. Hawkins, R. H. Sartor, J. H. Weller.

231 (14) VAUGHT, WALTER AUGUSTUS, Box 81, Corning, Ark. (Age 40. Born Newport, Va.) 1909 B. S. in Civ. Eng., and 1910 C. E., Va. Pol. Inst. Oct. 1910 to Oct. 1911 Rodman, Virginia Iron, Coal and Coke Co., Roanoke, Va. **TT 3: SP 3.** Oct. 1911 to Oct. 1913 Instrumentman on surveys for Clay Co., Ark. **TT 2: SP 2.** Oct. 1913 to date Prin. Asst. to Jas. R. Rhyne of Corning, Ark., in field and office in immediate and responsible charge of practically all work on Central Clay Drainage Dist. (\$500 000), ditch and levee work with floating dredges; Western Clay Drainage (\$550 000), ditch and levee work; Big Gum Drainage Dist., Clay and Green Cos., Ark. (\$150 000), ditch and levee; St. Francis Drainage Dist. and subsidiaries (\$1 000 000), ditch and levee; Varney's River Drainage Dist. in Missouri (\$200 000), ditch work completed; Cache River Drainage Dist., Jonesboro, Ark. (\$600 000), ditch work completed; Beaver Dam Drainage Dist., Greene and Randolph Cos., Ark. (\$150 000), ditch work completed; Holcomb Island Drainage Dist., Dunklin Co., Mo., designs and estimates (\$350 000), ditches; Drainage Dist. No. 30, Dunklin Co. (\$100 000), ditch work completed; Drainage Dists. Nos. 31, 34-36 of Dunklin Co., designed and estimated drainage work (\$500 000); also 200-ft. steel swing bridge, sub- and super-structure designed and inspected, across Block River, Corning, Ark.; two steel bridges (128 ft.), St. Francis River near Piggott, Ark., designed and inspected; 19 steel truss and overhead bridges (spans 56 to 85 ft.) in Clay Co., Ark., sub- and super-structures designed and inspected, and 30 steel beam bridges in Clay Co. **TT 11.3: SP 2: P 9.3: RC 9.3: D 3. TT 16.3: SP 7: P 9.3: RC 9.3: D 3.** Refers to L. L. Hildinger, T. S. Leavitt, C. W. Okey, J. R. Rhyne, A. C. Spiker.

232 (1) VEERA SWAMI, PONNAGUNTU, Makavari St., Jagannaickpur, M. S. M. Ry., Cocanada, India. (Age 27. Born Jagannaickpur, Cocanada, Ind.) Completed Civ. Eng. course, International Correspondence Schools, London. Feb. 1918 to Dec. 1919. Forest Surveyor with M. Gownder, Chf. Forest Officer, Jaypore Estate, Vizagapatam Dist., India, surveying and reservation of forests. *TT 1.9: P 1.9: RC 1.9.* March to July 1920 Sub-Overseer with M. R. Kharaghat, Superintending Engr., Public Works Dept., Waltair Circle, Vizagapatam Dist., on plans and estimates. *TT 0.3: P 0.3: D 0.3.* Aug. 1920 to March 1922 Dist. Forest Surveyor with F. A. Seagar, Dist. Forest Officer, Lower Godavari Div., Cocanada, India, survey of forests, forest roads and preparation of plans. *TT 1.6: P 1.6: RC 1.6.* Aug. to Dec. 1923 Draftsman with E. M. Crothers, Dist. Forest Officer, Kurnool West Forest Div., Kurnool, India, on plans and estimates. *TT 0.3: P 0.3: D 0.3.* *TT 4.2: P 4.2: RC 3.5: D 0.7.* (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

233 (5) VINCENT, HARVEY LEONARD, Box 487, Mullens, W. Va. (Age 24. Born Holland, Va.) Aug. to Nov. 1921 Rodman, Virginia State Highway Comm. *TT 0.3: SP 0.3.* Jan. to Sept. 1923 Rodman, North Carolina Highway Comm. *TT 0.7: SP 0.7.* Oct. 1923 to Dec. 1924 Chainman, Rodman and Instrumentman, Virginian Ry. Co. *TT 1.1: SP 1.1.* Dec. 1924 to date Instrumentman with Gibbs & Hill, building construction. *TT 0.1: SP 0.1. TT 2.2: SP 2.2.* Refers to O. B. Bestor, H. Fernstrom, H. W. Hudson, J. B. Kingsolver, H. C. Sanford, R. P. Thompson, A. M. Traugott.

234 (1) WALSH, MICHAEL THOMAS, Manzana de Gomez 508, Havana, Cuba. (Age 39. Born Roselle, N. J.) 1910 B. E., and 1919 C. E., Cooper Union. 1910 to 1912 with Hay Foundry, Newark, N. J. (1 year), and Milliken Bros., Inc., Staten Island, N. Y. (1 year), detailing structural steel and checking shop and weight bills. *TT 2: SP 1.5: P 0.5.* 1912 to 1914 with Post and McCord, New York, detailing and checking structural steel, plan making and some design. *TT 2: P 2: D 0.5.* 1914 to 1917 with Snare & Triest Corporation, New York and Havana, design of power plants, mill buildings, etc., plans and estimates. *TT 3: P 3: RC 1: D 3.* 1917 to 1919 with Krefjenski Pesant Corporation, Havana (now dissolved) as Engr. in charge of structural steel plant, designs, plans, estimates, etc. *TT 2: P 2: RC 2: D 2.* 1919 to date in private practice as Cons. Engr. at Havana, Cuba; also acting as Sales Engr. for Cuban business of Milliken Bros. Mfg. Co., Inc., New York City, and in charge of installation of structures delivered at Havana; as Cons. Engr. work included survey, plan and profile of Arriguanabo River from electric plant to where river disappears underground for Cuba Hydro-Elec. Co. at San Antonio de los Banos, Cuba; designs and estimates of structural features of Edificio Cooperativo de la Habana, and of various steel structures for J. M. Fitzgerald Co., Havana, also making erection plans for latter structures; design of structural steel and contracting for erection of steel for four buildings furnished to Compania Licorera de Camaguey at Camaguey, Cuba; at present making plans, designing and estimating steel buildings for sugar estate, Central Rio Cauto, at Rio Cauto, Oriente Province, Cuba. *TT 16.5: SP 3.5: P 13: RC 8.5: D 5.5.* Refers to A. S. Hobby, F. Holmes, J. E. Jennings, R. T. Leopold, G. H. Nolan, C. F. Wood.

235 (2) WERNER, PER WILHELM, 1778 Beacon St., Brookline, Mass. (Age 31. Born Ytterhogdal, Sweden.) 1919 C. E., Royal Tech. Univ., Stockholm, Sweden. July 1919 to July 1923 with A. B. Vattenbyggnadsbyren, as Engr., hydraulic and water power, and with Prof. C. J. Magnell, projecting water-power plant, Stockholm, Sweden. *TT 6: SP 2: P 4: RC 3: D 1.* Oct. 1923 to March 1924 graduate work in engineering at Massachusetts Inst. of Technology. *TT 0.4: P 0.4.* May 1924 to date Designer with Stone & Webster, Inc., Boston, Mass. *TT 0.8: P 0.8: D 0.8.* *TT 7.3: SP 2: P 5.3: RC 3: D 1.8.* Refers to H. K. Barrows, R. W. Burpee, A. G. Cherry, J. H. Eaton, T. B. Parker.

236 (1) WICK (formerly Zwick), WILLIAM SAMUEL JOSEPH, 355 West 87th St., New York City. (Age 43. Born West Carrollton, Ohio.) 1904 B. S., Case School of Applied Science. Oct. 1907 to Dec. 1909 Supt. of Constr., Osborn Eng. Co., Cleveland, Ohio. *TT 4: SP 4.* Jan. 1910 to Sept. 1917 Pres. and Gen. Mgr., Forest City Eng. Co., Cleveland, Ohio. *TT 7.7: P 7.7.* Sept. 1917 to Jan. 1919 Major of Engrs., U. S. Army. *TT 1.3: P 1.3.* Jan. 1919 to date Industrial Engr. in private practice, on design and construction of Crown Bldg. (7 stories, reinforced concrete, concrete piles in quicksand, cost about \$250 000), plant of Allyne-Ryan Foundry Co. (steel trusses and brick walls, buildings cost over \$150 000), Duncan Bldg. (7 stories, reinforced concrete and brick warehouse, cost about \$150 000), National Artificial Silk Mills (reinforced concrete and steel, cost over \$350 000), steel and brick building for Rickersberg Brass Co. and 7-story reinforced concrete building for The H. C. Christy Co. and rehabilitation of plant for Consolidated Iron Mfg. Co., all in

Cleveland, and efficiency work for New Haven Clock Co., New Haven, Conn. TT 6: P 6: RC 6: D 6. TT 19: SP 4: P 15: RC 6: D 6. Refers to W. J. Carter, C. H. Christian, B. L. Green, R. L. Harding, K. H. Osborn, C. W. Schubert.

237 (2) WOOTTEN, ALFRED GERALD, 80 Spring Garden Road, Halifax, N. S., Canada. (Age 29. Born Antigonish, N. S., Canada.) 1924 B. Sc. in Civ. Eng., N. S. Tech. Coll. May to Sept. 1915 Rodman, April to Oct. 1920 Inspector of boulders and concrete, highway construction, and May to Dec. 1924 Instrumentman, road construction, Provincial Highway Board, Nova Scotia. May to Oct. 1922 Chainman with City Engr. of Halifax, N. S. May to Oct. 1923 Leveler and concrete work with Nova Scotia Power Commr., Sheet Harbor, N. S., hydro-development, construction of power house. TT 4.4: SP 4.4. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

238 (2) YOUNG, RICHARD WILFRED, 15 Schussler Rd., Worcester, Mass. (Age 30. Born Norwich, Conn.) 1916 B. S. in Civ. Eng., Worcester Pol. Inst. June 1916 to Sept. 1917 with American Bridge Co., Ambridge and Pittsburgh, Pa., until Jan. 1917 as Draftsman detailing, then Shop Inspector, on structural steel, and from June to Sept. 1917 Engr.-Timekeeper on erection of steel for bridges and buildings. TT 3.2: RC 0.3: D 0.7. Oct. 1917 to July 1919 with U. S. Army, finally as 1st Lieut., Engrs., in France on road building, erection of aeroplane hangars and fabricating steel reinforcing on Pershing Stadium near Paris. TT 1.8: RC 1. Aug. 1919 to April 1920 Field Engr., American Bridge Co., Pittsburgh, designing erection methods for bridges and in charge of engineering in field. TT 0.8: RC 0.8: D 0.8. May 1920 to date Asst. Constr. Engr., Eastern Bridge & Structural Co., Worcester, Mass., designing structural steel for all classes of bridges and buildings; in charge of engineering work on contracts. TT 4.5: RC 4.5: D 4.5. TT 10.3: RC 6.6: D 5.9. Refers to A. W. French, W. C. Howe, A. J. Knight, S. Lund, C. W. Post, J. A. Tosi, L. W. West.

FOR TRANSFER

FROM THE GRADE OF ASSOCIATE MEMBER

239 (1) BLANCHARD, ROLLO KIMBALL, Assoc. M., 50 East 42d St., New York City. (Elected March 13, 1917.) (Age 38. Born Barre, Vt.) 1911 M. E., Cornell Univ. June to Sept. of years 1907 and 1908 Draftsman, Clossee Machine Tool Co., Montpelier, Vt., design and drafting. TT 2: SP 2. Jan. to Sept. 1910 Draftsman, Weber Subterranean Pump Co., division of Neptune Meter Co., New York City, study of deep well pumping installations and in charge of design and erection. TT 0.7: P 0.7: RC 0.7. Feb. 1911 to Jan. 1913 Engr., Weber Subterranean Pump Co. and Neptune Meter Co., having charge of design, construction, survey, field and erection deep well pumping installations. TT 2: P 2: RC 2. 1913 to date with Neptune Meter Co., 2 years as Chf. Engr. in charge of special meter construction, development and application of meters to oil lines, gasoline and other liquids; special development on fire service meters; 4 years Asst. to Pres. and Engr., in charge of engineering and entire charge of plant building, government munitions for England, Russia and United States; Organizer, Am. Fuze Mfrs. Association, having supervision of all government fuzes (1916-1918); past 6 years Asst. Secy. and Engr., general supervision and Eng. Executive for the company. TT 12: P 12: RC 12. TT 16.7: SP 2: P 14.7: RC 14.7. Refers to W. W. Brush, H. T. Critchlow, A. Hazen, B. B. Hodgman, S. M. Van Loan.

240 (2) CHASE, EDWARD SHERMAN, Assoc. M., 14 Beacon St., Boston, Mass. (Elected May 31, 1916.) (Age 40. Born Merrimac, Mass.) 1902 to 1907 student, Massachusetts Inst. of Technology. Sept. 1907 to July 1908 Private Asst. to Dr. L. P. Kinnicutt, Worcester Pol. Inst., inspection of water supplies, research in sewage treatment and assisting in San. Chemistry, Bacteriology and San. Eng. courses. TT 2.5: SP 2.5. July 1908 to May 1909 Acting Res. Engr., Chemist and Bacteriologist with Hering & Fuller during construction of sewage-treatment works at Reading, Pa., supervision of operation of sewage works and (6 months) Res. Engr. on construction. TT 0.8: SP 0.3: P 0.5: RC 0.5. May 1909 to Feb. 1913 Chemist-in-Chg. and Res. Engr., sewage-treatment works, City of Reading, supervision, reports, Res. Engr. on new construction and extensions of sewage works and advising on design. TT 3.8: P 3.8: RC 3.8: D 0.5. Feb. to Oct. 1913 Expert on sewage disposal, Sewage Experiment Station, Borough of Richmond, New York City, organization of chemical and bacteriological laboratory, arranging program for experimental work, supervision of analytical work and assisting in studies of pollution of New York Harbor. TT 0.7: P 0.7: RC 0.7. Oct. 1913 to April 1920 Asst. San. Engr., New York State Dept. of Health, investigations and reports on public water supplies, installation and operation of emergency disin-

fection plants for, and preparation of rules and regulations for sanitary protection of, water supplies, investigations of typhoid fever outbreaks and of proposed sites for tuberculosis hospitals with respect to water supply and sewage disposal. *TT 6.5: P 6.5: RC 6.5.* April 1920 to date San. Engr. with Metcalf and Eddy, Cons. Engrs., Boston, Mass., investigations of water supplies and of sewage-treatment works, stream pollution studies, preparation of reports, studies for design of water-purification and sewage-treatment plants. *TT 4.8: P 4.8: RC 4: D 4.* *TT 19.1: SP 2.8: P 16.3: RC 15.5: D 4.5.* Refers to H. P. Eddy, A. L. Fales, G. W. Fuller, J. R. McClintock, F. A. Marston, L. Metcalf, C. W. Sherman, W. L. Stevenson, J. P. Wentworth.

241 (7) CONRAD, CUTHBERT POWELL, Assoc. M., 308 Prospect Ave., Madison, Wis. (Elected Jan. 17, 1921.) (Age 32. Born Osceola, Mo.) 1915 B. S. in Eng., and 1916 C. E., Univ. of Wis. June to Sept. of years 1912-1914 Rodman and Instrumentman, Great Northern Ry. *TT 2: SP 2.* July-Sept. 1915 Computer, Miami Conservancy Dist., Dayton, Ohio, on maps and calculations for flood protection plan. *TT 0.2: SP 0.2.* Sept. 1915 to June 1916 Fellow of Univ. of Wisconsin on research in hydraulic laboratory on flow of water over submerged weirs with various forms of crest. *TT 0.7: P 0.7: RC 0.7.* June 1916 to July 1917 field, office and instructional work as Asst. to Prof. Daniel W. Mead and Mead & Seastone, Cons. Engrs., Madison, Wis., on topographic surveys and maps, and as Instructor in Hydr. Eng. courses. *TT 1.1: P 1.1.* July 1917 to April 1920 Lieut., Corps of Civ. Engrs., U. S. Navy, on construction, Washington Navy Yard and naval aviation stations in France; Adviser to Paris Naval Board on claims for liquidation of naval property in France. *TT 2.7: P 2.7: RC 2.7: D 0.5.* April 1920 to date with Daniel W. Mead & Charles V. Seastone, Cons. Engrs., Madison, until June 1922 as Engr. on design and construction of hydro-electric plants and water-works with reports and valuations along these lines; since then Superv. Engr. on design and construction of hydro-electric plants with surveys, reports and valuations of such projects. *TT 4.8: P 4.8: RC 4.8: D 4.8.* *TT 11.6: SP 2.2: P 9.4: RC 5.3: D 5.3.* Refers to L. R. Balch, A. W. K. Billings, D. W. Mead, H. W. Mead, C. V. Seastone, F. E. Turneure, R. G. Walter.

242 (8) CONSOER, ARTHUR WILLIAM, Assoc. M., 404 Fairview Ave., Park Ridge, Ill. (Elected March 9, 1920.) (Age 33. Born Chicago, Ill.) 1914 B. S. C. E., Univ. of Wis. July to Oct. 1912 Rodman and Levelman, Chicago, Milwaukee & St. Paul R. R. *TT 2.3: SP 2.3.* Nov. 1912 to May 1913 Structural Draftsman, Illinois Steel Co., Chicago, Ill. *TT 0.5: SP 0.5.* June to Oct. 1913 Asst. Engr., Dept. of Public Works, Oak Park, Ill. *TT 0.4: P 0.4: D 0.2.* July 1914 to May 1917 Asst. Engr., Illinois Highway Dept., Springfield, Ill. *TT 2.8: P 2.8: RC 2: D 2.* May 1917 to Sept. 1919 1st Lieut., and Capt., Corps of Engrs., U. S. Army, nearly 2 years with A. E. F., Water Supply Staff, Battalion Commander, 126th Engrs. *TT 2.3: SP 0.7: P 1.6: RC 1: D 0.2.* Oct. 1919 to Jan. 1920 Southern Mgr. for Older & Quinlan, Cons. Engrs., Chicago. *TT 0.2: P 0.2: RC 0.2.* Jan. 1920 to date Vice-Pres. and Gen. Mgr., Consoer Eng. Co., later Consoer, Older & Quinlan, Inc., Cons. Engrs., Chicago, on municipal improvements, water systems, sewerage, sewage disposal, paving, electric lighting, city bridges, railroad bridges, lot and subdivision surveys, including water-works, Calumet City (\$670 000), concrete paving, Dwight (\$130 000) and asphalt paving, Park Ridge (\$120 000), sewers, Niles Center (\$950 000) and Palatine (\$140 000), and sewer and water systems, River Grove (\$510 000), all in Illinois, bridges, I. H. B. R. R. (\$120 000), etc. *TT 5: P 5: RC 5: D 3.* *TT 13.5: SP 3.5: P 10: RC 8.2: D 5.4.* Refers to B. D. Barker, H. B. Bushnell, G. C. D. Lenth, C. Older, G. A. Quinlan, F. T. Sheets, L. S. Smith.

243 (4) HAYDOCK, CHARLES, Assoc. M., 922 Commercial Trust Bldg., Philadelphia, Pa. (Elected Junior June 4, 1913; Assoc. M. Nov. 28, 1916.) (Age 37. Born Moorestown, N. J.) Registered Prof. Engr., State of Pennsylvania. 1911 B. S. in C. E., Univ. of Pa. July 1905 to Sept. 1907 Eng. Asst. and Inspector with Franklin & Clarke, Philadelphia, Pa., on surveys, construction of sewers, roads, trolley lines, etc. Summers 1908 to 1910 on miscellaneous engineering work. *TT 4.2: SP 4.2.* July 1911 to July 1916 Asst. Engr., July 1916 to May 1918 and Jan. 1919 to June 1920 Prin. Asst. Engr., and since then Engr., Pennsylvania R. R. Water Supply Systems (chiefly incorporated water companies, comprising 15 storage and 50 distributing reservoirs, 500 miles of large size cast iron pipe-line, pumping stations, filter plants, steel standpipes, intake dams, etc.); work consists of the engineering in connection with operation and management of these systems, design and construction of extensions and improvements and certain special duties; construction work included pumping station with triple expansion engine (3 500 000 gal.); reconstruction of two filter plants to increase capacity, and of combination steam and water-power driven pumping plant, including new diverting dam, 60-in. wood stave pipe-line, two water turbines and triplex

pumps; design and construction of five concrete-lined earth reservoirs (3 000 000 to 15 000 000 gal.), five motor-driven centrifugal pumping stations (1 000 000 to 15 000 000 gal. each) and a masonry-faced, cyclopean concrete storage dam (max. height above foundations approx. 9 ft.); rebuilding several earthen impounding reservoirs by increasing cross-section, protecting the slopes and enlarging the spillways, etc.; special work includes investigation of adequacy of supplies and methods of increasing same; also of available sources of supply for points not now supplied, and of effect of occurrence and mining of coal on quality of water supplies, including probable results of water treatment by various methods; inventories, valuations, rate and miscellaneous cases before Public Service Comm.; supervision of collection of technical data for the Water Companies in case of Mountain Water Supply Co. *et al.* vs. Sagamore Coal Co. *et al.* (known as Indian Creek pollution cases); investigation of water facilities of Pennsylvania R. R. Co. and design or review of design of water supply improvements. *TT 12.9: SP 1: P 11.9: RC 11: D 10. TT 17.1: SP 5.2: P 11.9: RC 11: D 10.* Refers to W. G. Coughlin, C. Gilman, R. L. Humphrey, M. Knowles, J. W. Ledoux, J. F. Murray, T. H. Wiggin.

244 (7) LUNDAHL, RAYMOND RUDOLPH, Assoc. M., 411 46th St., Milwaukee, Wis. (Elected January 19, 1920.) (Age 35. Born Gibson City, Ill.) 1911 B. S. in C. E., and 1917 C. E., Univ. of Ill. Summer 1909 Inspector and Instrumentman, South Park Comm., Chicago. Summer 1910 Instrumentman, Cost Clerk, Asst. Foreman and Foreman on erection of reinforced concrete locomotive coaling station at Stocton, Ill., Link-Belt Machinery Co., Chicago. June 1911 to Jan. 1912 Inspector on concrete slab and girder highway bridges and pile-driving, Illinois State Highway Comm., Springfield, Ill. *TT 2.5: SP 2.5.* Jan. to July 1912 Correspondent, Power Pump Dept., Sears Roebuck & Co., Chicago, designing and advising on farm pumping plants, irrigation, drainage and contractors' pumping equipment, testing power pumps and gasoline engines. *TT 0.5: P 0.5: D 0.5.* July 1912 to April 1915 with Chicago, Milwaukee & St. Paul Ry., until March 1914 as Inspector on pile-driving and reinforced concrete, reinforcing Foreman, Inspector and Foreman on concrete work on 100 miles of revision of grade and alignment and double-tracking in Iowa; then Instrumentman, Middle Dist., on lines, grades, inspection and general supervision over all concrete construction, including bridges, sewers, septic tanks, etc. *TT 2.7: SP 1.5: P 1.2: RC 1: D 0.6.* April 1915 to April 1916 Inspector and Engr., Milwaukee County Highway Comm., on concrete paving, special roadwork, culverts and bridges, design and construction of retaining walls and sewers. *TT 1: P 1: D 0.5.* April 1916 to date (except July to Nov. 1918, on leave of absence, with U. S. Army, Depot Brigade, Camp Zachary Taylor, Engr. Replacement Troops, Ft. Benjamin Harrison and Washington Barracks; student in Engineer Officers Training School, Camp Humphreys) with Milwaukee Sewerage Comm., Inspector on concrete sewer construction in tunnel; Res. Engr. (Senior Engr.) in charge of large contract for construction of sewers in tunnel and open cut, pile foundations, cast iron pipe inverted siphon through river, street repairs, field supervision and direction and all records; Div. Engr. in charge of several sewer contracts, including open cut sewers, pre-cast concrete pipe pressure line, cast iron pressure lines, tests, small sewers in tunnel, street repairs, general field supervision and records; in charge of several contracts for sewers, construction of grit chambers, coarse screen house, pump well caisson, power and boiler house foundations for disposal plant, bulkhead pier, cofferdam, and hydraulic dredging for reclaiming land from the lake; Asst. Engr., field charge, construction, Milwaukee Sewage-Disposal Plant. *TT 8.8: SP 0.4: P 8.4: RC 8.2: D 8.2. TT 15.5: SP 4.4: P 11.1: RC 9.2: D 9.8.* Refers to H. P. Eddy, J. L. Ferebee, L. J. Klug, T. C. Hatton, L. Pearce, W. J. Sando.

245 (2) LYNCH, JOHN FRANCIS, Assoc. M., P. O. Box 785, New Haven, Conn. (Elected Nov. 28, 1916.) (Age 38. Born West Haven, Conn.) 1907 and 1908 student, Sheffield Scientific School, Yale Univ. 1909-1912 with City Wastes Disposal Co., New York City, as Inspector on Rye (N. Y.) Sewer System and at Asbury Park and East Providence, R. I.; in charge of construction of disposal works, Milton, N. Y.; building roads and bridges at Lawrence, N. Y.; in charge of field work for Southington (Conn.) Sewer System. *TT 5: SP 3: P 2: RC 1.* 1913 and 1914 with Clyde Potts, New York City, as Engr. on installation of West Haven (Conn.) Sewer; in charge of surveys for Patchogue and Hamden Sewer Systems. *TT 2: P 2: RC 1.* 1915 to July 1917 Town Engr., Orange, Conn., in charge of all public works, municipal work; designed and Engr. in charge of construction, Prospect Beach Sewer System; also with Palmer & Lynch, Gen. Contrs. and Engrs., New Haven, Conn., in charge of construction and estimating. *TT 2.6: P 2.6: RC 2.6: D 2.6.* July 1917 to Feb. 1919 Capt., Engrs., U. S. Army, in charge of installation of water-works at Ft. Foote, Md., and sewer works in camps about Washington, D. C., with troops. *TT 1.7: P 1.7: RC 1.7: D 1.7.* March 1919 to Nov. 1921 in charge of estimating and of construction for Acme Eng. Co.,

Hartford, Conn., on concrete roads and bridges. TT 2.7: P 2.7: RC 2.7: D 2.7. Jan. 1922 to date Town Engr., West Haven, in charge of all municipal construction and engineering; also in private practice; designed Guilford (Conn.) Sewer System; built 3 000 000-gal. swimming pool, Hartford; designed 3 500 000-gal. pool, with filters, etc., at Newark, N. J.; also pools at Reading and Pittsburgh, Pa., Trenton, N. J., Baltimore, Md., Youngstown, Columbus and Cincinnati, Ohio (Cons. Engr. on latter). TT 3: P 3: RC 3: D 3. TT 17: SP 3: P 14: RC 12: D 3. Refers to C. Blakeslee, A. Cahn, F. E. Caldwell, F. L. Ford, J. F. Jackson, A. S. Lynch, C. Potts.

246 (7) PFLANZ, ERNST LEOPOLD, Assoc. M., 278 Cedar St., Wauwatosa, Wis. (Elected Jan. 19, 1920.) (Age 36. Born Greiz, Germany.) 1911 B. S. C. E., Univ. of Wis. June to Sept. 1910 Instrumentman, T. M. E. R. & L. Co., Milwaukee, Wis., on surveying, track specials and location. TT 2: SP 2. June 1911 to March 1912 Inspector, Wisconsin Tax & R. R. Comm., Madison, Wis., on valuation field work and computation. TT 0.7: P 0.7. March 1912 to March 1913 designing and detailing, Chicago, Milwaukee & St. Paul Ry., Chicago, Ill., 9 months designing reinforced concrete structures, and 3 months Squad Foreman. TT 1: P 1: RC 0.2: D 0.7. March 1913 to April 1914 Structural Steel Detailer, American Bridge Co., Gary, Ind., detailing on viaducts, ore docks, lift bridges, mill and office buildings. TT 1.1: P 1.1. May to Dec. 1914 Asst. Supt., Foster Constr. Co., Milwaukee, on reinforced concrete buildings at Marquette, Mich. TT 0.7: P 0.7: RC 0.7. Feb. 1915 to Feb. 1920 with Milwaukee Sewerage Comm., 1½ years designing, ¾ years as Div. Engr. in charge of construction on tunnels (open trench and compressed air). TT 5: P 5: RC 3.5: D 1.5. March 1920 to Dec. 1921 Supt., Klug & Smith Co., Milwaukee, 8 months designing steel and reinforced concrete mill buildings and falsework for reinforced concrete viaduct, 1 year in charge of construction work on large reinforced concrete and arch viaduct. TT 1.7: P 1.7: RC 1: D 0.7. Dec. 1921 to date Asst. Engr., Milwaukee Sewerage Comm., in charge of design on sewage-disposal plant at Jones Island. TT 3.2: P 3.2: RC 3.2. TT 15.5: SP 2: P 13.5: RC 8.6: D 2.9. Refers to H. P. Eddy, J. L. Ferebee, T. C. Hatton, L. J. Klug, J. C. Meem, J. C. Pinney, W. J. Sando.

247 (7) TOWNSEND, DARWIN WADSWORTH, Assoc. M., 508 Market St., Milwaukee, Wis. (Elected Nov. 25, 1919.) (Age 37. Born Doylestown, Pa.) Aug. 1909 to June 1910 Draftsman, duPont Powder Co., Wilmington, Del., mill buildings, power machinery, designing and detailing. TT 0.8: SP 0.8. June 1910 to Feb. 1914 Chf. Draftsman and Designer for T. Chalkley Hatton, Cons. Engr., Wilmington, design of sewer and drainage systems, sewage-disposal, water-filtration and power plants, reservoirs, streets and highways; surveys and inspection. TT 3.7: SP 0.7: P 3: RC 3: D 3. Feb. 1914 to date with Milwaukee Sewerage Comm., until April 1918 as Chf. Draftsman in responsible charge of design and plans for sewage-testing station, intercepting sewers and sewage-disposal plant; since April 1918 also with Metropolitan Sewerage Comm. of Milwaukee County until May 1923 as Engr. of Designs in responsible charge and since then Asst. to Chf. Engr. and Acting Chf. Engr., general supervision of all design and construction (approx. \$3 000 000 annually) (reporting to Chf. Engr.) work in progress includes large activated sludge sewage-disposal plant and intercepting sewers in tunnel and open cut (expenditure to date approx. \$16 000 000), in responsible charge on this work practically all of time since 1914. TT 11: P 11: RC 11: D 11. TT 15.5: SP 1.5: P 14: RC 14: D 14. Refers to H. P. Eddy, T. C. Hatton, L. J. Klug, J. C. Meem, W. J. Sando.

248 (3) WELLS, JAMES PARRISH, Assoc. M., Cutler Bldg., Rochester, N. Y. (Elected March 12, 1918.) (Age 34. Born Johnstown, N. Y.) 1911 B. S., Univ. of Rochester. Two years post-graduate student in Civ. Eng. at Cornell and Wisconsin Univs. Summers 1908 and 1909 with party on topographical surveying and road construction, Rochester Park Comm. TT 2.5: SP 0.5: P 2. 1910 Asst. to Contractor's engineer on construction of hydro-electric development of Garoga Creek at Ephratah, N. Y. TT 0.3: SP 0.3. 1911 with State Highway Dept. staking out roads and drafting, etc. TT 0.3: SP 0.3. Summer of 1912 prepared plans and took charge of construction of small water power plant on Cayudetta Creek. TT 0.3: SP 0.3. 1913 made surveys, plans and estimates for proposed hydro-electric development on Taughannock Creek, near Ithaca, N. Y. TT 0.3: SP 0.3. Sept. 1913 Res. Engr., steel highway bridge (220-ft. span) across Genesee River at Genesee, N. Y. TT 1: P 1: RC 1. Sept. 1914 designing head-gates for hydro-electric plant at Minetto, N. Y.; Oct.-Dec. 1914 made, with Mr. Robbins, former State Engr., a valuation of private water company in City of Niagara Falls. TT 0.3: SP 0.3. Dec. 1914 to date Cons. Engr. at Rochester and in responsible charge of investigation, design and construction (except where otherwise stated) of the following works: 1915-1916 Le Roy water system, earth dam, filter plant and pipe-line; 1916-1917 earth dam with concrete core in Le Roy, reinforced concrete

crushed stone bin (1 000 tons) for Le Roy Limestone Corporation; 1917-1919 earth dam with concrete core, for City of Johnstown, N. Y. (50 ft. high, cost \$165 000); 1917-1918 in charge of construction of reinforced concrete factory at Bridgeburg, Ont., E. L. Woodward, Le Roy; 1920 water supply, Newark, N. Y., earth dam, filter plant, pipe-line (cost \$280 000); also water supply for Village of Groton, N. Y., earth dam, 4 miles pipe-line, plans for sewer system (not yet constructed) and masonry dam (200 ft. long, 15 ft. high) across Oatka Creek; 1920-1923 earth dam with concrete core (700 ft. long, 75 ft. high) for Ilion, N. Y. (under construction); 1921-1922 water supply and hydro-electric plant for City of Dunkirk (surveys and detailed plans prepared, construction not begun); earth dam with concrete core (130 ft. high), masonry dam (30 ft. high), 2 miles 4-ft. conduit, 3 000-h.p. power house, 10 000 000-gal. filtration plant, 2 000 000-gal. concrete reservoir (estimated cost \$1 400 000); 1921-1923 hydro-electric development on Flat Creek, N. Y. (construction not begun); 1922 pipe-line replacement at Canajoharie, N. Y.; 1922-1923 water supply, Village of Keeseville, N. Y., filtration plant and pipe-line; 1923-1924 water supply for Village of Fairport, N. Y., earth dam (about 45 ft. high) and adjacent low earth dam, filtration plant, 10 miles 12-in. pipe and 1 mile 16-in. pipe, 300 000-gal. standpipe; 1924 report for water supply for Remsen and Trenton, N. Y.; water-supply for Village of Silver Creek, N. Y., earth dam (45 ft. high), pipe-line (about 5 miles), 200 000 000-gal. reservoir; concrete arched dam, distributing reservoir for water supply for Village of Whitehall, N. Y., about 10 miles of pipe-line, two submerged lines under Lake Champlain; surveys, report and plans for proposed water supply for City of Saratoga Springs, N. Y.; water supply for Village of St. Johnsville, N. Y., 17-ft. earth dam with concrete core, about 6 miles pipe-line; also made many investigations and reports on proposed hydro-electric plants in United States and Canada. TT 10: P 10: RC 10: D 10. TT 15: SP 2: P 13: RC 11: D 10. Refers to F. J. Collins, F. J. Howes, W. McCulloh, A. R. McKim, T. J. Morrison.

FROM THE GRADE OF JUNIOR

249 (10) BOMAR, JOHN EARLE, Jun., P. O. Box 1098, Columbus, Ga. (Elected Oct. 8, 1918.) (Age 31. Born Versailles, Ky.) 1916 C. E., Univ. of Va. June to Aug. 1912 Recorder of stadia topography, Alabama Power Co. TT 2.2: SP 2.2. June 1916 to June 1919 with Braden Copper Co., New York City, as follows: June 1916 to Jan. 1917 Levelman and Recorder (Rancagua, Chile), running levels, power-canal survey, recording stadia topography, drafting, railroad survey, Instrumentman on general plant construction; Feb. to July 1917 Chf. of Party on lines and grades for large smelter, Draftsman, general construction office; Aug. to Sept. 1917 Instrumentman, lines and grades, steel tower transmission line construction; Oct. 1917 to June 1919 Chf. of Party, lines and grades, surveys and drafting in connection with construction of large tailings, disposal dam. TT 3: SP 1.6: P 1.4: RC 0.8: D 0.2. Oct. 1919 to Dec. 1920 with Stone & Webster, Inc., Columbus, Ga., until Dec. 1919 as Transitman in charge of location of $9\frac{1}{4}$ miles of transmission line; then Res. Engr. on construction of addition to hydro-electric power station, Goat Rock. TT 1.2: SP 0.2: P 1: RC 1: D 0.1. Jan. 1921 to Sept. 1923 with Columbus (Ga.) Elec. & Power Co., general engineering work, field and office, in connection with maintenance, additions to plant, etc. TT 2.7: SP 0.5: P 2.2: RC 1: D 0.3. June to Dec. 1924 with Stone & Webster, Inc., on miscellaneous engineering work, reservoir, Bartlett's Ferry project, Columbus Elec. & Power Co.; Res. Engr., construction of \$350 000 steel tower transmission line. TT 0.6: P 0.6: RC 0.3. TT 9.7: SP 4.5: P 5.2: RC 3.1: D 0.6. Refers to G. F. Harley, J. F. Richardson, A. C. Sandstrom, J. R. Sherman, J. R. Slade, L. H. Williamson, R. B. Worthy.

250 (1) GERSCH, EMANUEL, Jun., 1262 East 23d St., Brooklyn, N. Y. (Elected Jan. 15, 1923.) (Age 31. Born New York City.) 1917 C. E., Columbia Univ. June to Sept. 1917 Jun. Engr., Public Service Comm., New York City, final estimating on subway work. TT 2.2: SP 2.2. Sept. to Dec. 1917 Structural Draftsman with Perin & Marshall, New York City, on mill buildings and power plants. TT 0.3: SP 0.3. Dec. 1917 to Aug. 1918 Structural Draftsman and Designer, J. G. White Eng. Corporation, New York City, on mill buildings and power-plant construction at Muscle Shoals. TT 0.7: P 0.7: RC 0.1: D 0.6. Aug. to Dec. 1918 Structural Designer, Air Nitrates Corporation, New York City, on nitrate plant construction. TT 0.3: P 0.3: D 0.3. Dec. 1918 to March 1922 Senior Draftsman and Designer, New York Central R. R. Co., New York City, on Grand Central Terminal Improvements, trackwork, yard design, progress reports, valuation office and yard building design and construction. TT 3.2: P 3.2: D 3.2. March to Oct. 1922 Structural and Architectural Designer, Eighth Ave. R. R. Co., New York City, alteration work on office and loft buildings. TT 0.5: P 0.5: D 0.5. Oct. 1922 to Oct. 1923 Structural Steel and Concrete Designer with

H. S. Ferguson, Cons. Engr., on hydro-electric developments and paper mill buildings. *TT 1: P 1: D 1.* Oct. 1923 to April 1924 Structural Steel and Concrete Checker, Elec. Bond & Share Co., New York City, on hydro-electric and sub-station buildings. *TT 0.7: P 0.7: RC 0.7.* April 1924 to date Structural Steel and Concrete Designer, Dept. of Public Markets of New York City, building work on Bronx and Brooklyn Terminal Markets. *TT 0.7: P 0.7: RC 0.2: D 0.5.* *TT 9.7: SP 2.6: P 7.1: RC 1: D 6.1.* Refers to W. J. Ash, W. R. Bascome, J. O. Eckersley, E. B. Lovell, B. J. Mansfield, M. Miller, J. H. H. Muirhead.

251 (10) PERRY, ARTHUR FRANKLIN, Jr., Jun., 421 Duval Bldg., Jacksonville, Fla. (Elected Nov. 27, 1917.) (Age 30. Born Jacksonville, Fla.) 1916 C. E., Cornell Univ. June to Sept. 1913 Chairman and Rodman, Pennsylvania R. R. June 1916 to July 1917 Chf. of Party, Braden Copper Co., Rancagua, Chile, tailings disposal and water-power surveys, supervising tunnel construction. *TT 3.1: SP 2: P 1.1: RC 1.1.* Aug. 1917 to May 1919 2d Lieut., U. S. Army, 8 months with A. E. F. Orienteur Officer attached to Regimental Headquarters 64th Art., C. A. C. *TT 1.8: P 1.8: RC 1.8.* July 1919 to July 1920 Supt., Texas Co., Port Arthur, Tex., on buildings, oil stills and general construction. *TT 1: P 1: RC 1.* July 1920 to Jan. 1921 Supt. Transportation Mining, Buckman & Pritchard, Inc., Mineral City, Fla., in charge of operation small railroad and mining. *TT 0.5: P 0.5: RC 0.5: D 0.2.* Jan. 1921 to June 1922 Supt. Constr., Southern Enterprises, Inc., Atlanta, Ga., in charge of building theatres and general construction. *TT 1.4: P 1.4: RC 1.4.* Aug. 1922 to date Supt. for O. P. Woodcock, Gen. Contr., general building construction, industrial buildings, hotels, bridges, etc., in Florida. *TT 2.4: P 2.4: RC 2.4: D 1.* *TT 10.2: SP 2: P 8.2: RC 8.2: D 1.2.* Refers to R. M. Angas, C. S. Coe, D. P. Cooper, C. Crandall, A. F. Harley, G. B. Hills, E. S. Humphreys, J. G. Moore, L. H. Williamson.

252 (1) SCHONBERG, JACKSON ROY, Jun., 197 Elm St., Westfield, N. J. (Elected Nov. 9, 1920.) (Age 26. Born New York City.) Studied Civ. Eng. at Columbia Univ.; also took Chemical course at Coll. of City of New York. Feb. 1916 to date with Standard Oil Co. of New Jersey, until Feb. 1919 as Experimental Engr. at Bayonne Plant, on design, construction and operation of alternating regulating transformers of type used in electric furnace operation (350 k.v.a.), 1 000-kw. switchboards, 1 000-kw. electric furnaces, various pebble mills and calcining furnaces, retorts, condensers, etc., for manufacture of chemicals, apparatus for research work and erection of ore-crushing and pulverizing equipment; Feb. 1919 to Feb. 1921 Constr. Engr. at Bayway Plant, Elizabeth, N. J., designed, constructed and operated semi-commercial chemical plant (cost approx. \$100 000), consisting of office, laboratory and plant buildings; also various types of special apparatus to manufacture chemicals; March 1921 to Jan. 1925 Development Engr., Development Dept., designed and constructed various types of equipment for distillation of oils, such as stills, condensers, retorts, etc., for atmospheric, vacuum and pressure operation, also equipment for scrubbing of gases, pressing of wax, destructive distillation of various substances, manufacture of alcohol (cost \$5 000 to \$250 000); from April 1923 to April 1924 developing a new process (cost approx. \$250 000), in charge of the entire project involving mathematical analysis of the problem, and (due to different method of heating, condensing and flowing the materials) a great deal of original design and careful supervision of construction and operation; from April 1924 to Jan. 1925 made exhaustive tests on equipment and preparation of reports; since Jan. 1925 Designs Engr., Development Dept., design of all kinds of refining equipment, investigating new methods of design, construction and operation. *TT 9.8: P 9.8: RC 6.8: D 6.8.* Refers to C. H. Gaedcke, C. W. Hunt, J. Verner, T. W. Waddington, P. P. Wyman.

253 (1) SHERRARD, HOWARD MACOUN, Jun., Care, Queensland Irrigation and Water Supply Comm., Adelaide St., Brisbane, Australia. (Elected Sept. 10, 1923.) (Age 27. Born Melbourne, Victoria, Australia.) 1921 B. C. E., and 1923 M. C. E., Univ. of Melbourne. Feb. 1914 to March 1917 Asst. to B. A. Smith, Cons. Civ. and Hydr. Engr., on surveys, storm-water drainage, tramway track, water supply, and flood investigations. *TT 5: SP 5.* Dec. 1920 to Feb. 1921 Asst. Engr. to Municipality of Bright, Victoria, on storm-water drainage scheme for Town of Myrtleford and road layout. *TT 0.2: SP 0.2.* March 1921 to April 1924 with State Rivers and Water Supply Comm., Victoria, 2 years as Asst. Engr. and Deputy Executive at Sugarloaf Reservoir, Victoria, setting out and supervision of work, organization of labor and preparation of work schedules, design of works, temporary and permanent; remainder of time Res. Engr. at Waranga Reservoir and associated works, in charge of concrete and earth construction, also of operation, etc., of main canals and diversion weir, work comprising operation and maintenance of headworks of Goulburn Irrigation System, including Goulburn Weir, Goulburn-Waranga Main Channel, Waranga Reservoir and adjacent sections of main outlet channels to districts served by the Goulburn; principal

construction consisted of building reinforced concrete core wall backed by earthworks construction through completed Waranga Reservoir embankment for 4 miles; had charge of latter work and organized the plant, labor, etc.; work involved two quarries, design and construction of crushing plant, concreting plant, earthworks plant, etc.; other works included new main channel construction, wave protection works at Waranga Reservoir and large-scale operations for removing silt by locomotive crane, etc., from reservoir main outlet channels.

TT 3.1: P 3.1: RC 1.8: D 0.3. May 1924 to date, Designing Engr., Queensland Irrigation and Water Supply Comm., in charge of irrigation and water supply designs, such as elevated reinforced concrete tank, small arched dam, etc.; principal work at present Dawson Valley Irrigation Scheme, involving irrigating about 100 000 acres, with storage dam and diversion weir; on this has carried out advanced preliminary design for Nathan Dam (concrete arch, about 200 ft. high, storing 2 500 000 acre ft.), design of diversion weir (estimated cost about £100 000), designs for parts of first irrigation area of 5 000 acres with many miles of channels, dozens of structures, etc.; preparation of numerous reports on availability of water, main canal design, lateral design standardization, etc. TT 0.7: P 0.7: RC 0.7: D 0.7. TT 9: SP 5.2: P 3.8: RC 2.5: D 1. Refers to A. L. Galbraith, G. Higgins, B. A. Smith, T. H. Upton. (Applies in accordance with Sec. 1, Art. I, of the By-Laws.)

254 (11) SOPP, CLAUDE WELLINGTON, Jun., 1933 Juanita Ave., Pasadena, Cal. (Elected June 16, 1919.) (Age 31. Born Owosso, Mich.) 1917 B. S. in C. E., Cal. Inst. Tech. June to Sept. 1913 Electrician, Stone & Webster Corporation. July to Sept. of years 1914-1916 Substation Operator, and May to July 1917 Chairman and Computer, Southern California Edison Co. TT 2.2: SP 2.2. July 1917 to Jan. 1918 Jun. Engr., U. S. Geological Survey, Chf. of Party, classification of lands in North Dakota and Montana. TT 0.5: P 0.5: RC 0.5. Jan. to July 1918 Hydrographer, U. S. Forest Service, in charge of location, design, construction and operation of stream-gauging stations in Los Angeles County, Cal. TT 0.5: P 0.5: RC 0.5. July to Nov. 1918 Private, U. S. Army, 472d Engrs., and at Engr. Officers' Training School, Camp Humphreys, Va. TT 0.3: SP 0.3. Dec. 1918 Draftsman, office of M. O. Leighton, Cons. Engr., Washington, D. C., study of a power project. TT 0.1: P 0.1. Jan. 1919 to June 1922 Asst. Engr., U. S. Geological Survey, until June 1921 on stream gauging and office computations of run-off of streams in California and Arizona, including the Colorado River; then Asst. to E. C. La Rue, field and office studies of water power and irrigation projects on Klamath, Merced and San Luis Rey Rivers in California and Black, Little Colorado and Colorado Rivers in Arizona. TT 3.5: P 3.5. July 1922 to date Asst. Engr., Pasadena Water Dept., valuation of two public utility water systems (value \$70 000 and \$300 000), layout and design of booster pumping station, studies of surface and ground water conditions in the Arroyo Seco and San Gabriel River basins, study of storage problems on San Gabriel River, supervision of diamond drill borings, and exploration tunnels and shafts at two dam sites; preliminary design of 350-ft. gravity section, concrete dam. TT 2.7: P 2.7: RC 2.2: D 0.5. TT 9.8: SP 2.5: P 7.8: RC 3.2: D 0.5. Refers to H. W. Dennis, J. C. Dort, F. H. Fowler, N. C. Grover, L. C. Hill, J. C. Hoyt, E. C. LaRue, M. O. Leighton, H. D. McGlashan, S. B. Morris, G. E. P. Smith, A. L. Sonderegger, F. Thomas, O. A. Wait.

255 (10) VAN TREES, JOHN ELLIS, Jr., Jun., 250 So. Waldran Blvd., Memphis, Tenn. (Elected Dec. 4, 1922.) (Age 30. Born Louisville, Ky.) June to Sept. 1913 and Oct. 1914 to April 1916 Tracer, Jones & Furbringer, Archts., Memphis. TT 1.8: SP 1.8. Aug.-Dec. 1917 Draftsman, Illinois Central R. R. Co., on track work and safety devices. TT 0.4: SP 0.4. Jan. to May 1918 Map Draftsman, Associated Eng. Co. TT 0.3: SP 0.3. May 1918 to July 1919 Private, Co. A, 29th Engrs., A. E. F., topographic map work and about 3 months in School of Surveying. TT 0.9: SP 0.9. Oct. 1919 to Sept. 1920 Draftsman and Rodman with W. F. Schulz, Cons. Engr., made maps of railroad facilities of Memphis, collected data on buildings, etc. TT 0.9: SP 0.9. Sept. 1920 to March 1922 (part of time while student in special course in Civ. Eng. at Univ. of Tennessee) Draftsman, until Jan. 1921 with Holt Bros., Engrs., Knoxville; then Draftsman and Instrumentman with J. B. McCalla & Co., Engrs. TT 0.5: SP 0.5. March to Dec. 1922 Draftsman and Instrumentman, Decatur Water Supply Co., grades for roads across Decatur Lake, at times in charge of party, calculated yardage for contract payments, etc. TT 0.8: SP 0.8. Jan. 1923 to April 1924 Field Engr., J. Paul Gaines, C. E., grades and yardage, large dredge project; designed and supervised work on 22-mile tile drainage system with cost-keeping; also laid out 7-mile tile system, in charge of surveys, maps, etc. TT 1.2: P 1.2: RC 1.2: D 0.1. April to Sept. 1924 Asst. Engr. with W. E. Johnson, Civ. Engr., in charge of grades and superintended construction of concrete base, curb and gutter for sheet asphalt paving (\$100 000); estimated quantities for monthly payments. TT 0.4: P 0.4: RC 0.4. Sept. 1924 to Jan. 1925 Res. Engr. with T. H. Allen,

FOR TRANSFER

Cons. Engr., in entire charge of reinforced concrete paving project (\$49 000), including storm sewers, sidewalks, white-way, etc., prepared estimates and assessment roll; designed sanitary sewer system (\$27 000) and made preliminary survey for same. *TT 0.4; P 0.4; RC 0.4; D 0.1. TT 7.6; SP 5.6; P 2; RC 2; D 0.2.* Refers to B. B. Brier, F. A. Busse, J. H. Dorroh, N. W. Dougherty, H. N. Howe, W. F. Schulz, F. L. Washburn.

The Board of Direction will consider the applications in this list not less than thirty days after the date of its issue.